

Washington State Institute for Public Policy

Children's Mental Health Benefit-Cost Results

The WSIPP benefit-cost analysis examines, on an apples-to-apples basis, the monetary value of programs or policies to determine whether the benefits from the program exceed its costs. WSIPP's research approach to identifying evidence-based programs and policies has three main steps. First, we determine "what works" (and what does not work) to improve outcomes using a statistical technique called meta-analysis. Second, we calculate whether the benefits of a program exceed its costs. Third, we estimate the risk of investing in a program by testing the sensitivity of our results. For more detail on our methods, see our [technical documentation](#).

Current estimates replace old estimates. Numbers will change over time as a result of model inputs and monetization methods.

Remote Cognitive Behavioral Therapy (CBT) for anxious children

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: These treatments utilize the same principles and techniques as those of other CBT treatments for anxiety; however, they are unique insofar as clients have reduced (if any) face-to-face time with therapists. Clients are supported remotely via email or phone contact. A manual or online program helps to guide progress of the intervention.

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$15,247	Benefit to cost ratio	n/a
Taxpayers	\$7,284	Benefits minus costs	\$25,257
Other (1)	\$1,124	Probability of a positive net present value	100 %
Other (2)	\$837		
Total	\$24,492		
Costs	\$766		
Benefits minus cost	\$25,257		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other (1)	Other (2)	
From primary participant					
Labor market earnings (major depression)	\$2	\$1	\$0	\$0	\$3
Health care (major depression)	\$0	\$0	\$0	\$0	(\$1)
Labor market earnings (anxiety disorder)	\$14,949	\$6,376	\$0	\$0	\$21,326
Health care (anxiety disorder)	\$296	\$908	\$1,124	\$454	\$2,780
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$383	\$383
Totals	\$15,247	\$7,284	\$1,124	\$837	\$24,492

We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

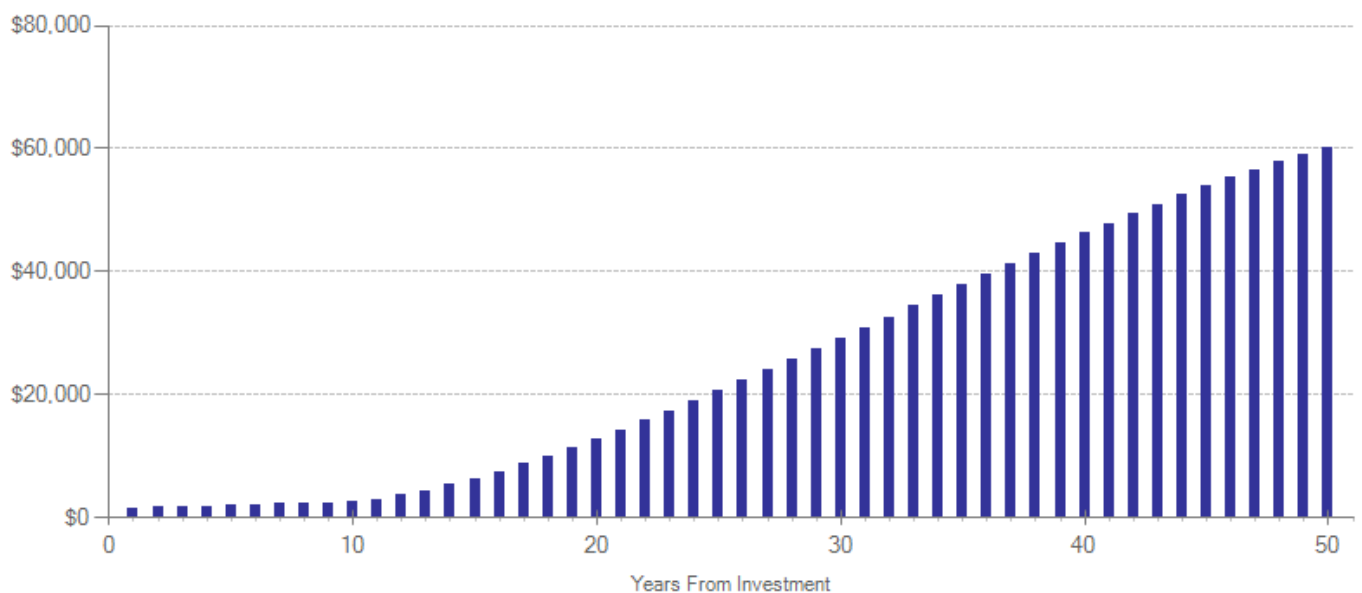
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$217	1	2010	Present value of net program costs (in 2013 dollars)	\$766
Comparison costs	\$943	1	2010	Uncertainty (+ or - %)	10 %

Based on therapist time, as reported in the treatment studies, as well as training costs and a flat fee for materials (e.g., manuals). Hourly therapist cost is based on the latest actuarial estimates of reimbursement by modality in WA State (DSHS).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Anxiety disorder	Primary	5	-1.140	0.001	-1.140	0.259	11	-0.527	0.167	12
Global functioning	Primary	2	1.074	0.001	1.074	0.224	11	0.497	0.152	12
Major depressive disorder	Primary	1	0.000	1.000	0.000	0.260	11	0.000	0.021	12

Citations Used in the Meta-Analysis

- Khanna, M. S., & Kendall, P. C. (2010). Computer-assisted cognitive behavioral therapy for child anxiety: Results of a randomized clinical trial. *Journal of Consulting and Clinical Psychology, 78*(5), 737-745.
- Lyneham, H. J., & Rapee, R. M. (2006). Evaluation of therapist-supported parent-implemented CBT for anxiety disorders in rural children. *Behaviour Research and Therapy, 44*(9), 1287-1300.
- March, S., Spence, S. H., & Donovan, C. L. (2009). The efficacy of an internet-based cognitive-behavioral therapy intervention for child anxiety disorders. *Journal of Pediatric Psychology, 34*(5), 474-487.
- Rapee, R. M., Abbott, M. J., & Lyneham, H. J. (2006). Bibliotherapy for children with anxiety disorders using written materials for parents: A randomized controlled trial. *Journal of Consulting and Clinical Psychology, 74*(3), 436-444.
- Spence, S. H., Holmes, J. M., March, S., & Lipp, O. V. (2006). The feasibility and outcome of clinic plus internet delivery of cognitive-behavior therapy for childhood anxiety. *Journal of Consulting and Clinical Psychology, 74*(3), 614-621.

Group Cognitive Behavioral Therapy (CBT) for anxious children

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: Treatments usually include multiple components, such as somatic management, cognitive restructuring and self-talk, exposure to feared stimuli, and positive reinforcement. This brief therapy can be administered in individual, group, or family format; well-known examples include the Coping Cat and Coping Koala programs. The results below are those from group formats.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$4,897	Benefit to cost ratio	n/a
Taxpayers	\$2,330	Benefits minus costs	\$8,322
Other (1)	\$347	Probability of a positive net present value	100 %
Other (2)	\$344		
Total	\$7,918		
Costs	\$405		
Benefits minus cost	\$8,322		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other (1)	Other (2)	
From primary participant					
Labor market earnings (anxiety disorder)	\$4,805	\$2,050	\$0	\$0	\$6,855
Health care (anxiety disorder)	\$91	\$280	\$347	\$141	\$860
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$203	\$203
Totals	\$4,897	\$2,330	\$347	\$344	\$7,918

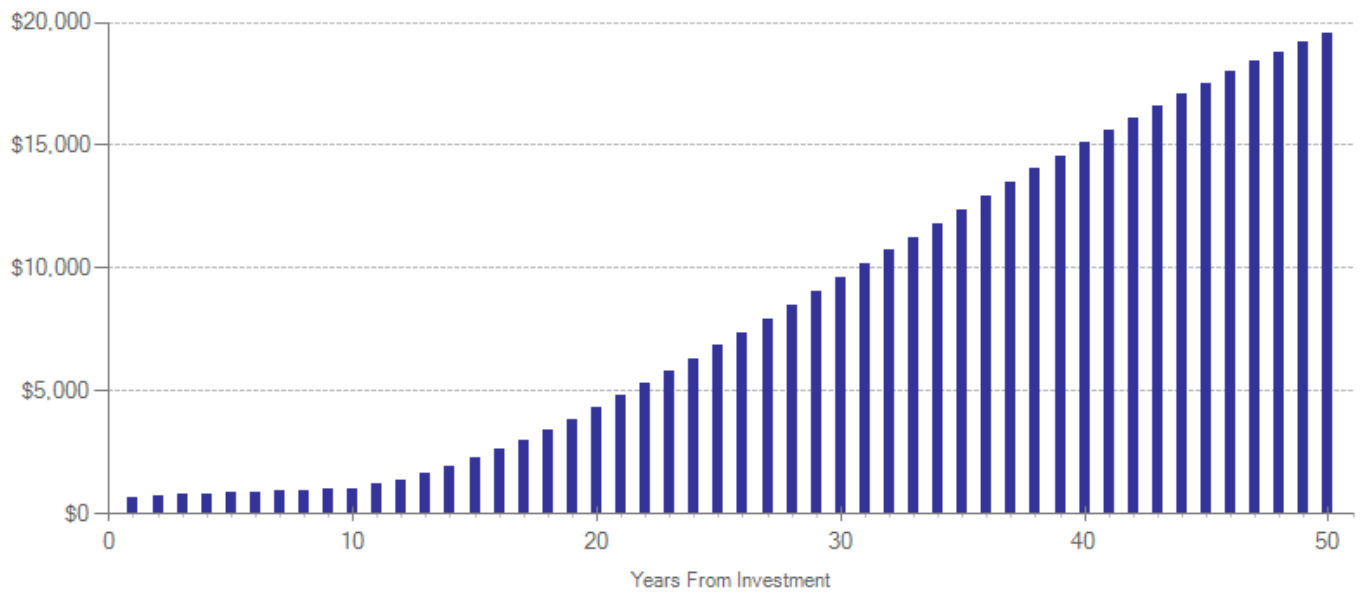
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$559	1	2010	Present value of net program costs (in 2013 dollars)	\$405
Comparison costs	\$943	1	2010	Uncertainty (+ or - %)	10 %

Based on therapist time, as reported in the treatment studies, as well as training costs and a flat fee for materials (e.g., manuals). Hourly therapist cost is based on the latest actuarial estimates of reimbursement by modality in WA State (DSHS).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
			ES	p-value	First time ES is estimated			Second time ES is estimated		
Anxiety disorder	Primary	13	-0.950	0.001	-0.447	0.108	11	-0.206	0.068	12

Citations Used in the Meta-Analysis

- Barrett, P. M. (1998). Evaluation of cognitive-behavioral group treatments for childhood anxiety disorders. *Journal of Clinical Child Psychology*, 27(4), 459-468.
- Bernstein, G. A., Layne, A. E., Egan, E. A., & Tennison, D. M. (2005). School-based interventions for anxious children. *Journal of the American Academy of Child & Adolescent Psychiatry*, 44(11), 1118-1127.
- Dadds, M. R., Spence, S. H., Holland, D. E., Barrett, P. M., & Laurens, K. R. (1997). Prevention and early intervention for anxiety disorders: A controlled trial. *Journal of Consulting and Clinical Psychology*, 65(4), 627-635.
- Gallagher, H. M., Rabian, B. A., & McCloskey, M. S. (2004). A brief group cognitive-behavioral intervention for social phobia in childhood. *Journal of Anxiety Disorders*, 18(4), 459-479.
- Hudson, J. L., Rapee, R. M., Deveney, C., Schniering, C. A., Lyneham, H. J., & Bovopoulos, N. (2009). Cognitive-behavioral treatment versus an active control for children and adolescents with anxiety disorders: A randomized trial. *Journal of the American Academy of Child & Adolescent Psychiatry*, 48(5), 533-544.
- Lau, W.-Y., Chan, C. K.-Y., Li, J. C.-H., & Au, T. K.-F. (2010). Effectiveness of group cognitive-behavioral treatment for childhood anxiety in community clinics. *Behaviour Research and Therapy*, 48(11), 1067-1077.
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- Rapee, R. M., Abbott, M. J., & Lyneham, H. J. (2006). Bibliotherapy for children with anxiety disorders using written materials for parents: A randomized controlled trial. *Journal of Consulting and Clinical Psychology*, 74(3), 436-444.
- Rapee, R. (2000). Group treatment of children with anxiety disorders: Outcome and predictors of treatment response. *Australian Journal of Psychology*, 52(3), 125-129.
- Shortt, A. L., Barrett, P. M., & Fox, T. L. (2001). Evaluating the FRIENDS program: A cognitive-behavioral group treatment for anxious children and their parents. *Journal of Clinical Child Psychology*, 30(4), 525-535.
- Silverman, W. K., Kurtines, W. M., Ginsburg, G. S., Weems, C. F., Lumpkin, P. W., & Carmichael, D. H. (1999). Treating anxiety disorders in children with group cognitive-behavioral therapy: A randomized clinical trial. *Journal of Consulting and Clinical Psychology*, 67(6), 995-1003.
- Spence, S. H., Donovan, C., & Brechman-Toussaint, M. (2000). The treatment of childhood social phobia: The effectiveness of a social skills training-based, cognitive behavioural intervention, with and without prenatal involvement. *Journal of Child Psychology and Psychiatry*, 41(6), 713-726.
- Spence, S. H., Holmes, J. M., March, S., & Lipp, O. V. (2006). The feasibility and outcome of clinic plus internet delivery of cognitive-behavior therapy for childhood anxiety. *Journal of Consulting and Clinical Psychology*, 74(3), 614-621.

Individual Cognitive Behavioral Therapy (CBT) for anxious children

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: Treatments usually include multiple components, such as somatic management, cognitive restructuring and self-talk, exposure to feared stimuli, and positive reinforcement. This brief therapy can be administered in individual, group, or family format; well-known examples include the Coping Cat and Coping Koala programs. The results below are those from individual formats.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$3,900	Benefit to cost ratio	\$7.56
Taxpayers	\$1,837	Benefits minus costs	\$4,954
Other (1)	\$250	Probability of a positive net present value	96 %
Other (2)	(\$276)		
Total	\$5,711		
Costs	(\$757)		
Benefits minus cost	\$4,954		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other (1)	Other (2)	
From primary participant					
Labor market earnings (anxiety disorder)	\$3,834	\$1,635	\$0	\$0	\$5,470
Health care (anxiety disorder)	\$66	\$202	\$250	\$101	\$619
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$378)	(\$378)
Totals	\$3,900	\$1,837	\$250	(\$276)	\$5,711

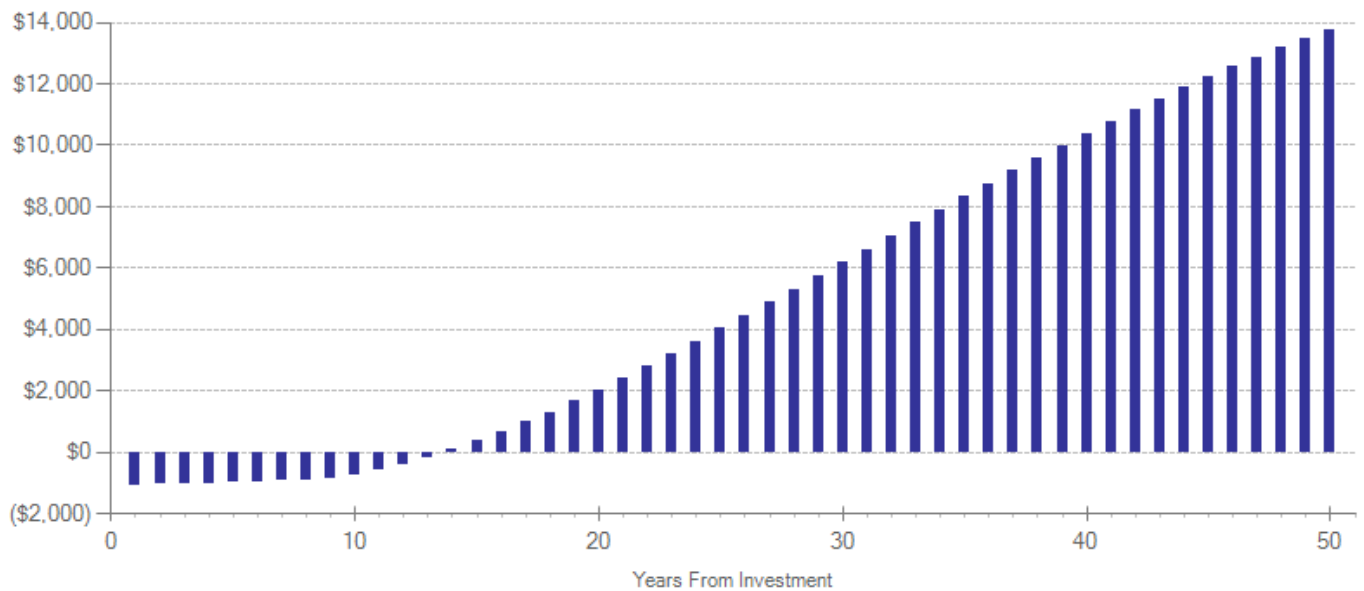
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$1,661	1	2010	Present value of net program costs (in 2013 dollars)	(\$757)
Comparison costs	\$943	1	2010	Uncertainty (+ or - %)	10 %

Based on therapist time, as reported in the treatment studies, as well as training costs and a flat fee for materials (e.g., manuals). Hourly therapist cost is based on the latest actuarial estimates of reimbursement by modality in WA State (DSHS).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Anxiety disorder	Primary	9	-0.735	0.001	-0.367	0.097	11	-0.170	0.059	12
Major depressive disorder	Primary	1	-0.482	0.036	-0.202	0.230	11	0.000	0.025	12
Suicidal ideation	Primary	2	0.285	0.021	0.285	0.124	11	0.132	0.065	12
Global functioning	Primary	2	0.222	0.068	0.222	0.122	11	0.102	0.062	12

Citations Used in the Meta-Analysis

- Barrett, P. M., Dadds, M. R., & Rapee, R. M. (1996). Family treatment of childhood anxiety: A controlled trial. *Journal of Consulting and Clinical Psychology, 64*(2), 333-342.
- Flannery-Schroeder, E. D., & Kendall, P. C. (2000). Group and individual cognitive-behavioral treatments for youth with anxiety disorders: A randomized clinical trial. *Cognitive Therapy and Research, 24*(3), 251-278.
- Kendall, P. C., Flannery-Schroeder, E., Panichelli-Mindel, S. M., Southam-Gerow, H., Henin, A., & Warman, M. (1997). Therapy for youths with anxiety disorders: A second randomized clinical trial. *Journal of Consulting and Clinical Psychology, 65*(3), 366-380.
- Kendall, P. C., Hudson, J. L., Gosch, E., Flannery-Schroeder, E., & Suveg, C. (2008). Cognitive-behavioral therapy for anxiety disordered youth: A randomized clinical trial evaluating child and family modalities. *Journal of Consulting and Clinical Psychology, 76*(2), 282- 297.
- Kendall, P. C. (1994). Treating anxiety disorders in children: Results of a randomized clinical trial. *Journal of Consulting and Clinical Psychology, 62*(1), 100-110.
- Manassis, K., Mendlowitz, S.L., Scapillato, D., Avery, D., Fiksenbaum, L., Freire, M., . . . Owens, M. (2002) Group and individual cognitive-behavioral therapy for childhood anxiety disorders: A randomized trial. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(12), 1423-1430.
- Nauta, M. H., Scholing, A., Emmelkamp, P. M. G., & Minderaa, R. B. (2003). Cognitive-behavioral therapy for children with anxiety disorders in a clinical setting: No additional effect of a cognitive parent training. *Journal of the American Academy of Child & Adolescent Psychiatry, 42*(11), 1270-1278.
- Southam-Gerow, M. A., McLeod, B. D., Weisz, J. R., Chu, B. C., Gordis, E. B., & Connor-Smith, J. K. (2010). Does cognitive behavioral therapy for youth anxiety outperform usual care in community clinics? An initial effectiveness test. *Journal of the American Academy of Child & Adolescent Psychiatry, 49*(10), 1043-1052.
- Walkup, J. T., Albano, A. M., Piacentini, J., Birmaher, B., Compton, S. N., Sherrill, J. T., . . . Kendall, P. C. (2008). Cognitive behavioral therapy, sertraline, or a combination in childhood anxiety. *The New England Journal of Medicine, 359*(26), 2753-2766.

Parent Cognitive Behavioral Therapy (CBT) for anxious children

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: Treatments usually include multiple components, such as somatic management, cognitive restructuring and self-talk, exposure to feared stimuli, and positive reinforcement. This brief therapy can be administered in individual, group, or family format. Well-known examples include the Coping Cat and Coping Koala programs.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$1,238	Benefit to cost ratio	n/a
Taxpayers	\$606	Benefits minus costs	\$2,942
Other (1)	\$113	Probability of a positive net present value	99 %
Other (2)	\$358		
Total	\$2,315		
Costs	\$627		
Benefits minus cost	\$2,942		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other (1)	Other (2)	
From primary participant					
Labor market earnings (anxiety disorder)	\$1,208	\$515	\$0	\$0	\$1,723
Health care (anxiety disorder)	\$30	\$91	\$113	\$45	\$279
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$313	\$313
Totals	\$1,238	\$606	\$113	\$358	\$2,315

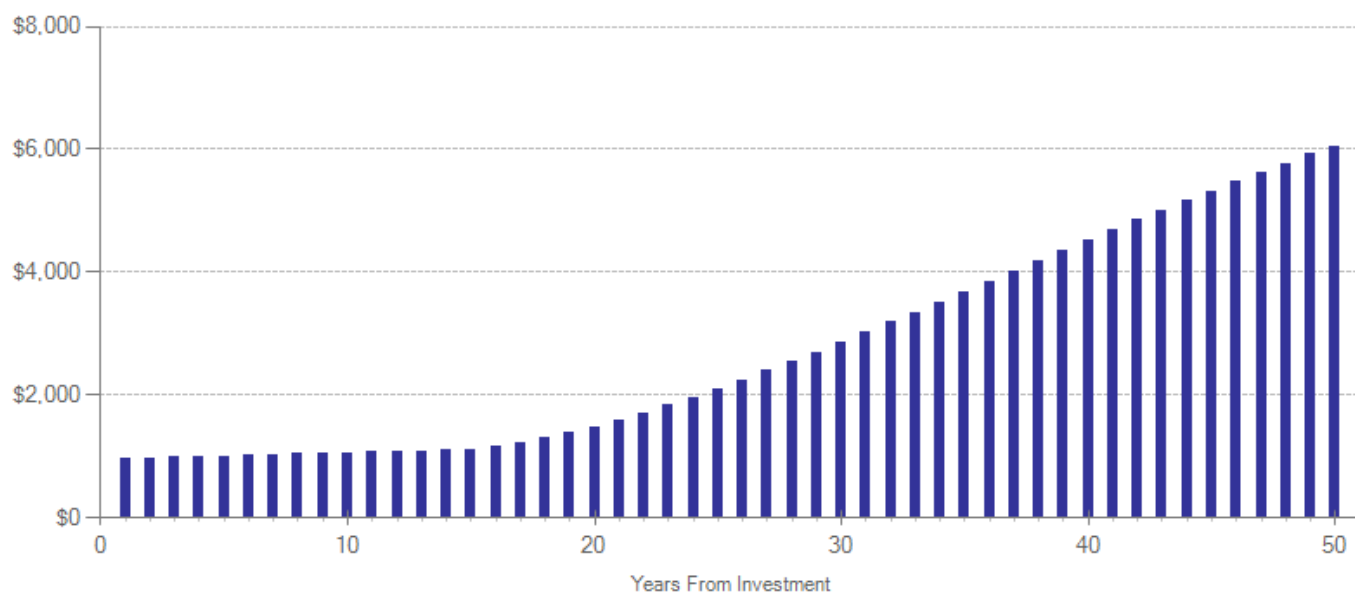
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$348	1	2010	Present value of net program costs (in 2013 dollars)	\$627
Comparison costs	\$943	1	2010	Uncertainty (+ or - %)	10 %

Based on therapist time, as reported in the treatment studies, as well as training costs and a flat fee for materials (e.g., manuals). Hourly therapist cost is based on the latest actuarial estimates of reimbursement by modality in WA State (DSHS).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Anxiety disorder	Primary	3	-0.842	0.019	-0.260	0.157	6	-0.120	0.079	7

Citations Used in the Meta-Analysis

- Kennedy, S. J., Rapee, R. M., & Edwards, S. L. (2009). A selective intervention program for inhibited preschool-aged children of parents with an anxiety disorder: Effects on current anxiety disorders and temperament. *Journal of the American Academy of Child & Adolescent Psychiatry*, 48(6), 602-609.
- Rapee, R. M., Kennedy, S. J., Ingram, M., Edwards, S. L., & Sweeney, L. (2010). Altering the trajectory of anxiety in at-risk young children. *American Journal of Psychiatry*, 167(12), 1518-1525.
- Waters, A. M., Ford, L. A., Wharton, T. A., & Cobham, V. E. (2009). Cognitive-behavioural therapy for young children with anxiety disorders: Comparison of a child + parent condition versus a parent only condition. *Behaviour Research and Therapy*, 47(8), 654-662.

Behavioral Parent Training (BPT) for children with ADHD

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: This is a brief intervention (spanning a couple of months) that involves psychoeducation and teaching parents behavior management techniques, such as reinforcement and teacher correspondence. Many studies utilize or build on Barkley's Defiant Children program.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$40	Benefit to cost ratio	n/a
Taxpayers	\$30	Benefits minus costs	\$282
Other (1)	\$40	Probability of a positive net present value	95 %
Other (2)	\$62		
Total	\$172		
Costs	\$110		
Benefits minus cost	\$282		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other (1)	Other (2)	
From primary participant					
Crime	\$0	\$2	\$7	\$1	\$11
Labor market earnings (hs grad)	\$36	\$15	\$18	\$0	\$70
K-12 grade repetition	\$0	\$0	\$0	\$0	\$0
Health care (disruptive behavior disorder)	\$4	\$12	\$15	\$6	\$37
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$55	\$55
Totals	\$40	\$30	\$40	\$62	\$172

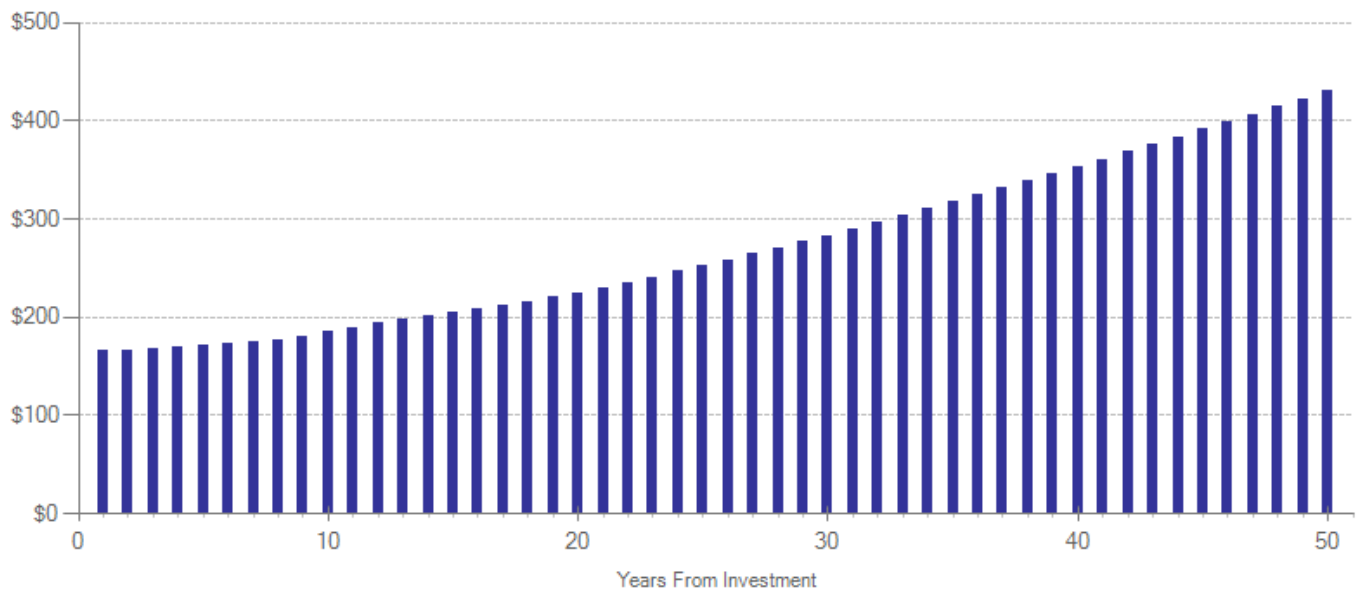
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$846	1	2010	Present value of net program costs (in 2013 dollars)	\$110
Comparison costs	\$950	1	2010	Uncertainty (+ or - %)	10 %

Based on therapist time, as reported in the treatment studies, as well as training costs and a flat fee for materials (e.g., manuals). Hourly therapist cost was based on the latest actuarial estimates of reimbursement by modality in WA State (DSHS).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
			ES	p-value	First time ES is estimated			Second time ES is estimated		
					ES	SE	Age	ES	SE	Age
Attention deficit hyperactivity disorder symptoms	Primary	6	-0.410	0.001	-0.197	0.107	7	0.000	0.012	8
Disruptive behavior disorder symptoms	Primary	3	-0.210	0.494	-0.073	0.133	7	-0.035	0.070	10
Internalizing symptoms	Primary	1	-0.422	0.043	-0.156	0.209	7	-0.114	0.169	9

Citations Used in the Meta-Analysis

- Anastopoulos, A. D., Shelton, T. L., DuPaul, G. J., & Guevremont, D. C. (1993). Parent training for attention-deficit hyperactivity disorder: Its impact on parent functioning. *Journal of Abnormal Child Psychology*, 21(5), 581-596.
- Chacko, A., Wymbs, B. T., Wymbs, F. A., Pelham, W. E., Swanger-Gagne, M. S., Girio, E., . . . O'Connor, B. (2009). Enhancing traditional behavioral parent training for single mothers of children with ADHD. *Journal of Clinical Child & Adolescent Psychology*, 38(2), 206-218.
- Sonuga-Barke, E. J. S., Daley, D., Thompson, M., Laver-Bradbury, C., & Weeks, A. (2001). Parent-based therapies for preschool attention-deficit/hyperactivity disorder: A randomized, controlled trial with a community sample. *Journal of the American Academy of Child & Adolescent Psychiatry*, 40(4), 402-408.
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- Thompson, M. J. J., Laver-Bradbury, C., Ayres, M., Le Poidevin, E., Mead, S., Dodds, C., . . . Sonuga-Barke, E. J. S. (2009). A small-scale randomized controlled trial of the revised new forest parenting programme for preschoolers with attention deficit hyperactivity disorder. *European Child & Adolescent Psychiatry*, 18(10), 605-616.
- van den Hoofdakker, B. J., van der Veen-Mulders, L., Sytema, S., Emmelkamp, P. M. G., Minderaa, R. B., & Nauta, M. H. (2007). Effectiveness of behavioral parent training for children with ADHD in routine clinical practice: A randomized controlled study. *Journal of the American Academy of Child & Adolescent Psychiatry*, 46(10), 1263-1271.

Multimodal Therapy (MMT) for children with ADHD

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: These treatments target more than one setting with psychosocial interventions. For instance, many therapies intervene with both parents and teachers or children. In this analysis, all studies utilized either behavioral or cognitive-behavioral orientations.

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$4,104	Benefit to cost ratio	\$0.96
Taxpayers	\$3,338	Benefits minus costs	(\$403)
Other (1)	\$4,260	Probability of a positive net present value	43 %
Other (2)	(\$3,485)		
Total	\$8,217		
Costs	(\$8,620)		
Benefits minus cost	(\$403)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				
	Participants	Taxpayers	Other (1)	Other (2)	Total benefits
From primary participant					
Crime	\$0	\$1,410	\$4,005	\$705	\$6,120
K-12 grade repetition	\$0	\$0	\$0	\$0	\$0
Labor market earnings (anxiety disorder)	\$4,037	\$1,722	\$0	\$0	\$5,759
Health care (anxiety disorder)	\$67	\$206	\$255	\$102	\$630
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$4,293)	(\$4,293)
Totals	\$4,104	\$3,338	\$4,260	(\$3,485)	\$8,217

We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

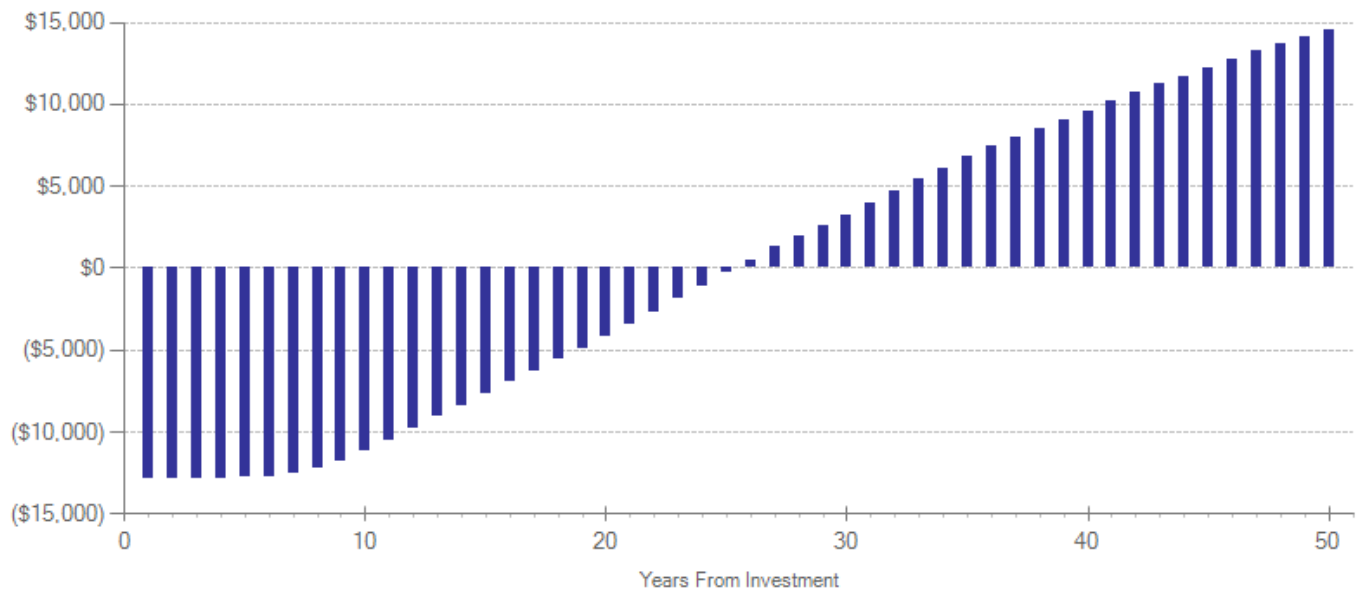
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$9,120	1	2010	Present value of net program costs (in 2013 dollars)	(\$8,620)
Comparison costs	\$950	1	2010	Uncertainty (+ or - %)	20 %

Based on therapist time, as reported in the treatment studies, as well as training costs and a flat fee for materials (e.g., manuals). Hourly therapist cost was based on the latest actuarial estimates of reimbursement by modality in WA State (DSHS).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
			ES	p-value	First time ES is estimated			Second time ES is estimated		
					ES	SE	Age	ES	SE	Age
Attention deficit hyperactivity disorder symptoms	Primary	9	-0.186	0.125	-0.084	0.082	9	0.000	0.006	10
Disruptive behavior disorder symptoms	Primary	7	-0.341	0.007	-0.253	0.102	9	-0.121	0.073	11
Crime	Primary	1	-0.429	0.062	-0.429	0.230	17	-0.429	0.230	27
Global functioning	Primary	1	0.141	0.582	0.141	0.256	9	-0.008	0.021	10
Anxiety disorder	Primary	2	-0.190	0.227	-0.190	0.157	9	-0.088	0.077	10

Citations Used in the Meta-Analysis

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Cognitive Behavioral Therapy (CBT) for children with ADHD

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: Cognitive training and cognitive-behavioral therapies are included in this program grouping. Both target problem-solving in order to reduce impulsive behavior; specific strategies include self-monitoring, modeling/role playing, self-instruction, generation of alternatives, and reinforcement.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	(\$93)	Benefit to cost ratio	(\$0.77)
Taxpayers	(\$69)	Benefits minus costs	(\$1,797)
Other (1)	(\$95)	Probability of a positive net present value	0 %
Other (2)	(\$524)		
Total	(\$782)		
Costs	(\$1,015)		
Benefits minus cost	(\$1,797)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

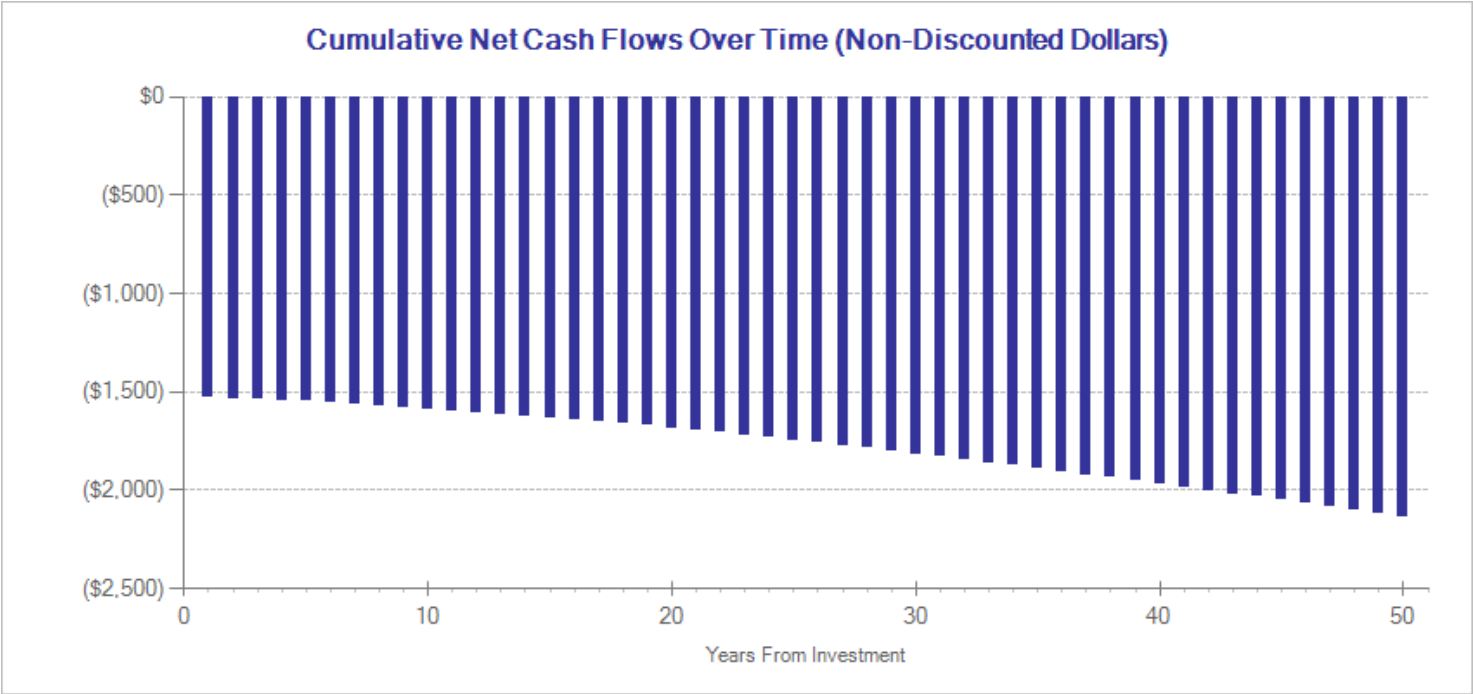
Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other (1)	Other (2)	Total benefits
From primary participant					
Crime	\$0	(\$6)	(\$19)	(\$3)	(\$28)
Labor market earnings (hs grad)	(\$84)	(\$36)	(\$42)	\$0	(\$162)
K-12 grade repetition	\$0	\$0	\$0	\$0	\$0
Health care (disruptive behavior disorder)	(\$9)	(\$28)	(\$34)	(\$14)	(\$84)
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$508)	(\$508)
Totals	(\$93)	(\$69)	(\$95)	(\$524)	(\$782)

We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$1,913	1	2010	Present value of net program costs (in 2013 dollars)	(\$1,015)
Comparison costs	\$950	1	2010	Uncertainty (+ or - %)	10 %

Based on therapist time, as reported in the treatment studies, as well as training costs and a flat fee for materials (e.g., manuals). Hourly therapist cost was based on the latest actuarial estimates of reimbursement by modality in WA State (DSHS).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).



Meta-Analysis of Program Effects										
Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Attention deficit hyperactivity disorder symptoms	Primary	7	0.040	0.791	0.015	0.152	10	0.000	0.008	11
Disruptive behavior disorder symptoms	Primary	2	0.148	0.682	0.148	0.362	10	0.071	0.189	12

Citations Used in the Meta-Analysis

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Cognitive Behavioral Therapy (CBT) for depressed adolescents

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: Treatments include various components, such as cognitive restructuring, behavioral activation, emotion regulation, communication skills, and problem-solving. Most commonly, studies offering this treatment provided 10-20 therapeutic hours per client in individual or group modality. One well-known example is the Adolescent Coping With Depression (CWD-A) program.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$80	Benefit to cost ratio	\$1.11
Taxpayers	\$90	Benefits minus costs	\$55
Other (1)	\$85	Probability of a positive net present value	51 %
Other (2)	\$300		
Total	\$555		
Costs	(\$500)		
Benefits minus cost	\$55		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other (1)	Other (2)	
From primary participant					
Crime	\$0	\$2	\$6	\$1	\$8
Labor market earnings (major depression)	\$59	\$25	\$0	\$518	\$602
Health care (major depression)	\$21	\$64	\$79	\$32	\$196
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$251)	(\$251)
Totals	\$80	\$90	\$85	\$300	\$555

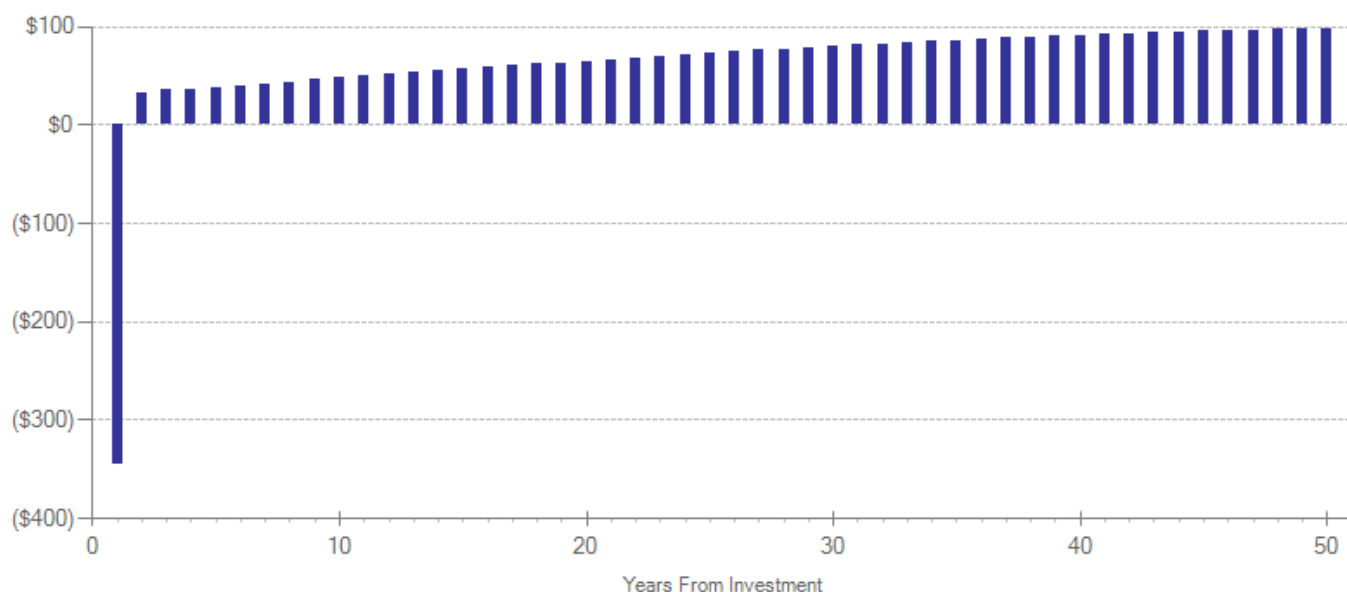
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$1,207	1	2010	Present value of net program costs (in 2013 dollars)	(\$500)
Comparison costs	\$733	1	2010	Uncertainty (+ or - %)	10 %

Based on therapist time, as reported in the treatment studies, as well as training costs and a flat fee for materials (e.g., manuals). Hourly therapist cost is based on the latest actuarial estimates of reimbursement by modality in WA State (DSHS).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Externalizing behavior symptoms	Primary	5	-0.039	0.698	-0.029	0.099	16	-0.014	0.052	19
Major depressive disorder	Primary	11	-0.595	0.001	-0.277	0.088	16	0.000	0.024	17
Hospitalization (psychiatric)	Primary	1	-0.143	0.001	-0.091	0.214	16	0.000	0.019	17
Suicide attempts	Primary	1	0.000	1.000	0.000	0.215	16	0.000	0.019	17
Suicidal ideation	Primary	2	-0.329	0.011	-0.329	0.130	16	0.000	0.029	17
Primary care visits	Primary	1	-0.135	0.529	-0.086	0.214	16	0.000	0.019	17

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Triple P Positive Parenting Program: Level 4, group

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: Triple P – Positive Parenting Program (Level 4 group) is an intensive class-based parenting program for families of children with more challenging behavior problems. The focus is learning skills and role-playing strategies to cope with and correct behavior problems.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$236	Benefit to cost ratio	n/a
Taxpayers	\$233	Benefits minus costs	\$1,668
Other (1)	\$310	Probability of a positive net present value	100 %
Other (2)	\$347		
Total	\$1,126		
Costs	\$541		
Benefits minus cost	\$1,668		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other (1)	Other (2)	Total benefits
From primary participant					
Crime	\$0	\$16	\$46	\$8	\$70
Labor market earnings (hs grad)	\$192	\$82	\$95	\$0	\$368
Health care (disruptive behavior disorder)	\$44	\$136	\$168	\$68	\$417
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$272	\$272
Totals	\$236	\$233	\$310	\$347	\$1,126

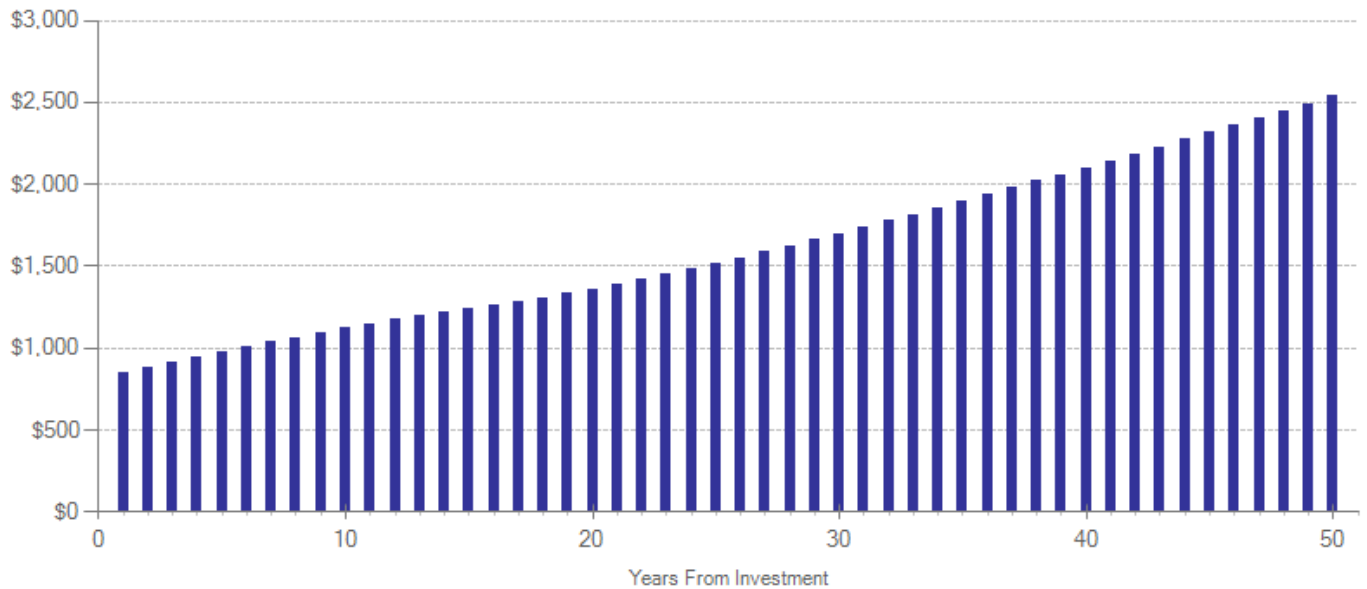
We created the two “other” categories to report results that do not fit neatly in the “participant” or “taxpayer” perspectives. In the “Other (1)” category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the “Other (2)” category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$367	1	2010	Present value of net program costs (in 2013 dollars)	\$541
Comparison costs	\$881	1	2010	Uncertainty (+ or - %)	20 %

Based on current Washington expenditures per family for individual behavioral treatment with Triple P, under the assumption that with group training, eight families could receive training at the same time from the same therapist. We also added an estimated cost for venue rental (a cost that is unnecessary when conducting the program with individual families).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Disruptive behavior disorder symptoms	Primary	7	-0.514	0.001	-0.186	0.046	5	-0.089	0.044	8
Externalizing behavior symptoms	Primary	1	-0.119	0.348	-0.044	0.127	5	-0.021	0.066	8
Internalizing symptoms	Primary	1	-0.066	0.601	-0.024	0.127	5	-0.017	0.099	7

Citations Used in the Meta-Analysis

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Other Behavioral Parent Training (BPT) for children with disruptive behavior disorders

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: In addition to several “brand name” parenting programs, we have grouped other brief treatments in which parents are taught behavior management skills and communication either alone or with their children (in a family format).

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$339	Benefit to cost ratio	n/a
Taxpayers	\$320	Benefits minus costs	\$1,349
Other (1)	\$428	Probability of a positive net present value	96 %
Other (2)	\$153		
Total	\$1,241		
Costs	\$109		
Benefits minus cost	\$1,349		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other (1)	Other (2)	
From primary participant					
Crime	\$0	\$22	\$68	\$11	\$100
Labor market earnings (hs grad)	\$280	\$120	\$139	\$0	\$539
Health care (disruptive behavior disorder)	\$58	\$179	\$221	\$89	\$547
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$54	\$54
Totals	\$339	\$320	\$428	\$153	\$1,241

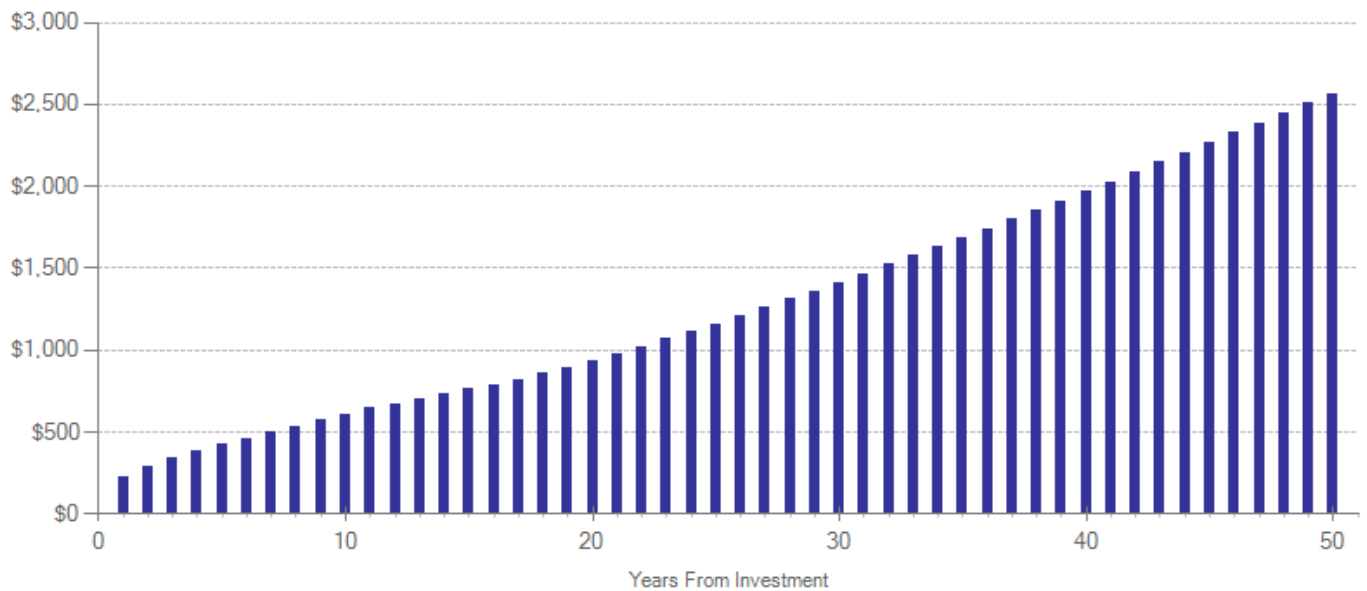
We created the two “other” categories to report results that do not fit neatly in the “participant” or “taxpayer” perspectives. In the “Other (1)” category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the “Other (2)” category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$778	1	2010	Present value of net program costs (in 2013 dollars)	\$109
Comparison costs	\$881	1	2010	Uncertainty (+ or - %)	10 %

Based on therapist time, as reported in the treatment studies, as well as training costs and a flat fee for materials (e.g., manuals). Hourly therapist cost was based on the latest actuarial estimates of reimbursement by modality in WA State (DSHS).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Disruptive behavior disorder symptoms	Primary	7	-0.746	0.001	-0.180	0.143	8	-0.086	0.082	11
Internalizing symptoms	Primary	2	-0.442	0.033	-0.122	0.143	8	-0.089	0.117	10

Citations Used in the Meta-Analysis

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Brief Strategic Family Therapy (BSFT)

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: This intervention is aimed at youth who are at risk of developing serious behavior problems, including delinquency and substance abuse. Because such risk can be defined in various ways, the studies in this analysis included participants with different types and severity of problems. This treatment has been extensively tested on ethnic minorities.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$179	Benefit to cost ratio	\$3.06
Taxpayers	\$594	Benefits minus costs	\$1,084
Other (1)	\$803	Probability of a positive net present value	75 %
Other (2)	\$34		
Total	\$1,611		
Costs	(\$527)		
Benefits minus cost	\$1,084		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other (1)	Other (2)	
From primary participant					
Crime	\$0	\$44	\$121	\$22	\$186
Health care (disruptive behavior disorder)	\$179	\$551	\$682	\$277	\$1,689
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$264)	(\$264)
Totals	\$179	\$594	\$803	\$34	\$1,611

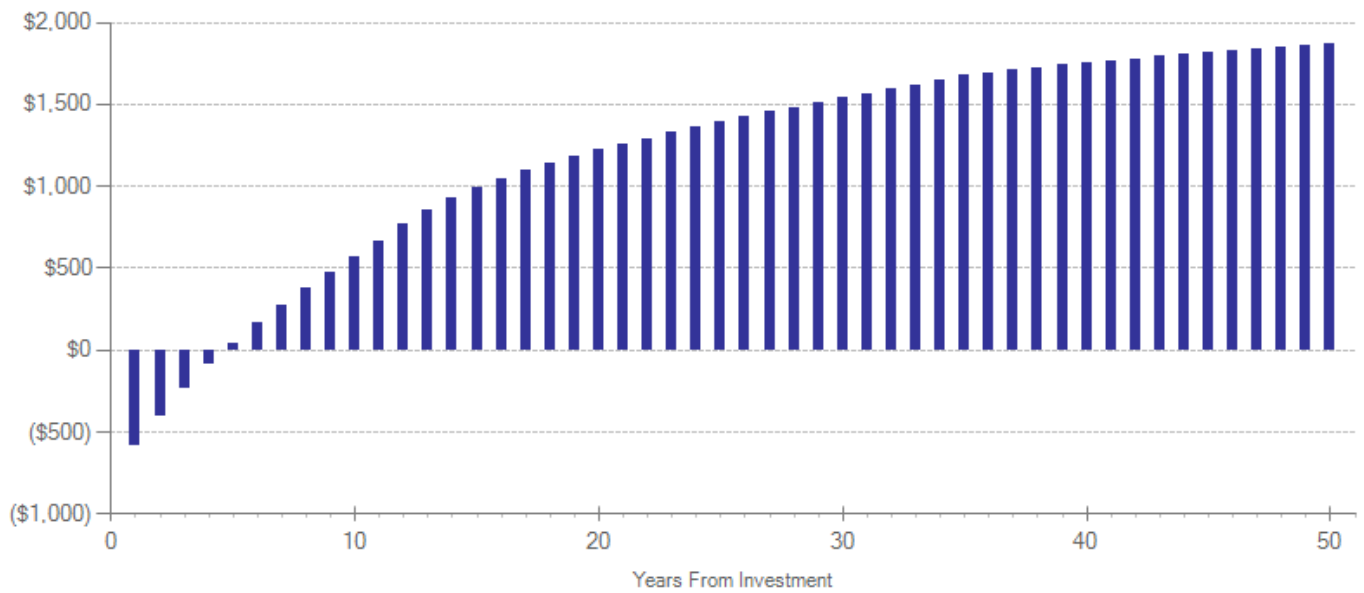
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$1,350	1	2010	Present value of net program costs (in 2013 dollars)	(\$527)
Comparison costs	\$850	1	2010	Uncertainty (+ or - %)	10 %

Based on therapist time, as reported in the treatment studies, as well as training costs and a flat fee for materials (e.g., manuals). Hourly therapist cost was based on the latest actuarial estimates of reimbursement by modality in WA State (DSHS).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Disruptive behavior disorder symptoms	Primary	3	-0.500	0.002	-0.205	0.148	14	-0.119	0.092	17
Illicit drug abuse or dependence	Primary	2	-0.086	0.404	-0.087	0.013	13	0.000	0.187	16

Citations Used in the Meta-Analysis

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Triple P Positive Parenting Program: Level 4, individual

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: Triple P – Positive Parenting Program (Level 4, self directed) is an intensive individual-based parenting program for families of children with challenging behavior problems. In the self-directed modality, parents receive a full Level 4 curriculum with a workbook and exercises to complete at their own pace. They are also offered support from a therapist by telephone on a regular basis.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$559	Benefit to cost ratio	\$1.74
Taxpayers	\$597	Benefits minus costs	\$705
Other (1)	\$785	Probability of a positive net present value	72 %
Other (2)	(\$275)		
Total	\$1,665		
Costs	(\$961)		
Benefits minus cost	\$705		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other (1)	Other (2)	
From primary participant					
Crime	\$0	\$36	\$106	\$18	\$160
Labor market earnings (hs grad)	\$437	\$186	\$215	\$0	\$839
Health care (disruptive behavior disorder)	\$122	\$374	\$463	\$188	\$1,148
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$482)	(\$482)
Totals	\$559	\$597	\$785	(\$275)	\$1,665

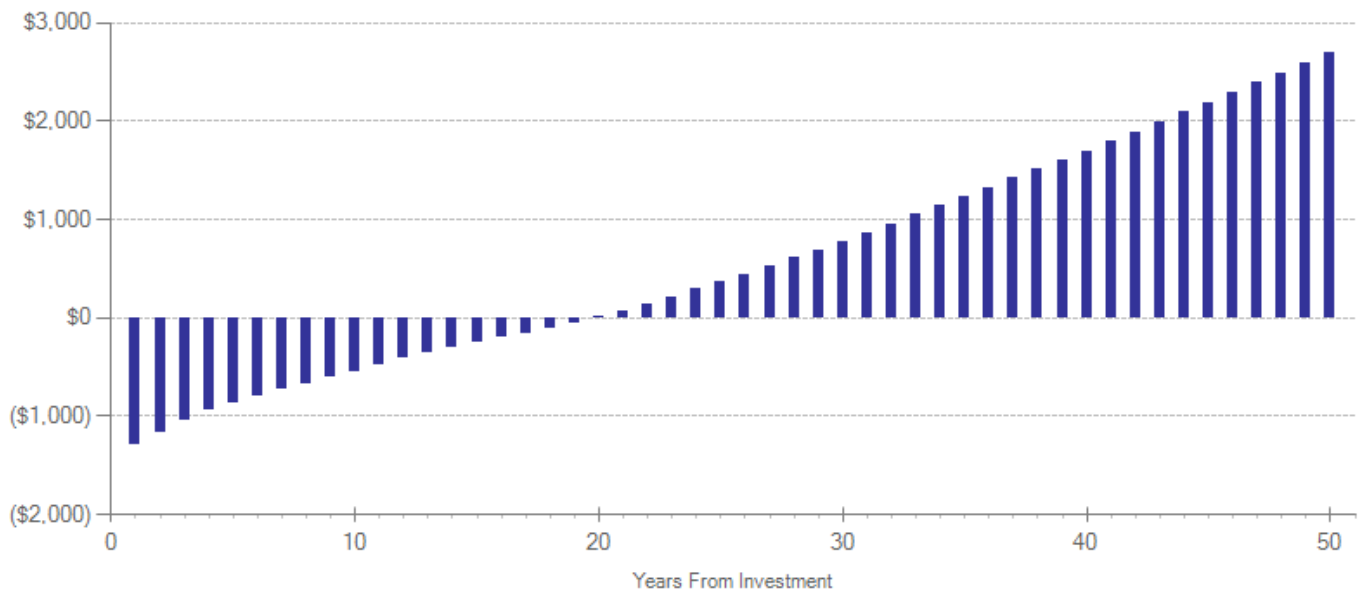
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$1,792	1	2010	Present value of net program costs (in 2013 dollars)	(\$961)
Comparison costs	\$881	1	2010	Uncertainty (+ or - %)	10 %

Expenditures per family provided by Washington State DSHS Children's Administration, June 2011; based on 10-16 sessions of individual family behavioral training.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Disruptive behavior disorder symptoms	Primary	5	-0.866	0.001	-0.326	0.126	7	-0.155	0.093	10

Citations Used in the Meta-Analysis

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Multimodal Therapy (MMT) for children with disruptive behavior

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: These treatments target more than one setting with psychosocial interventions. For instance, many therapies intervene with both parents and teachers or children. In this analysis, all studies utilized either behavioral or cognitive-behavioral orientations.

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$1,206	Benefit to cost ratio	\$1.39
Taxpayers	\$563	Benefits minus costs	\$497
Other (1)	\$676	Probability of a positive net present value	50 %
Other (2)	(\$634)		
Total	\$1,811		
Costs	(\$1,314)		
Benefits minus cost	\$497		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other (1)	Other (2)	
From primary participant					
Crime	\$0	\$5	\$17	\$3	\$25
Labor market earnings (test scores)	\$1,189	\$507	\$597	\$0	\$2,293
K-12 grade repetition	\$0	\$0	\$0	\$0	\$0
Health care (disruptive behavior disorder)	\$16	\$51	\$63	\$26	\$156
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$663)	(\$663)
Totals	\$1,206	\$563	\$676	(\$634)	\$1,811

We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

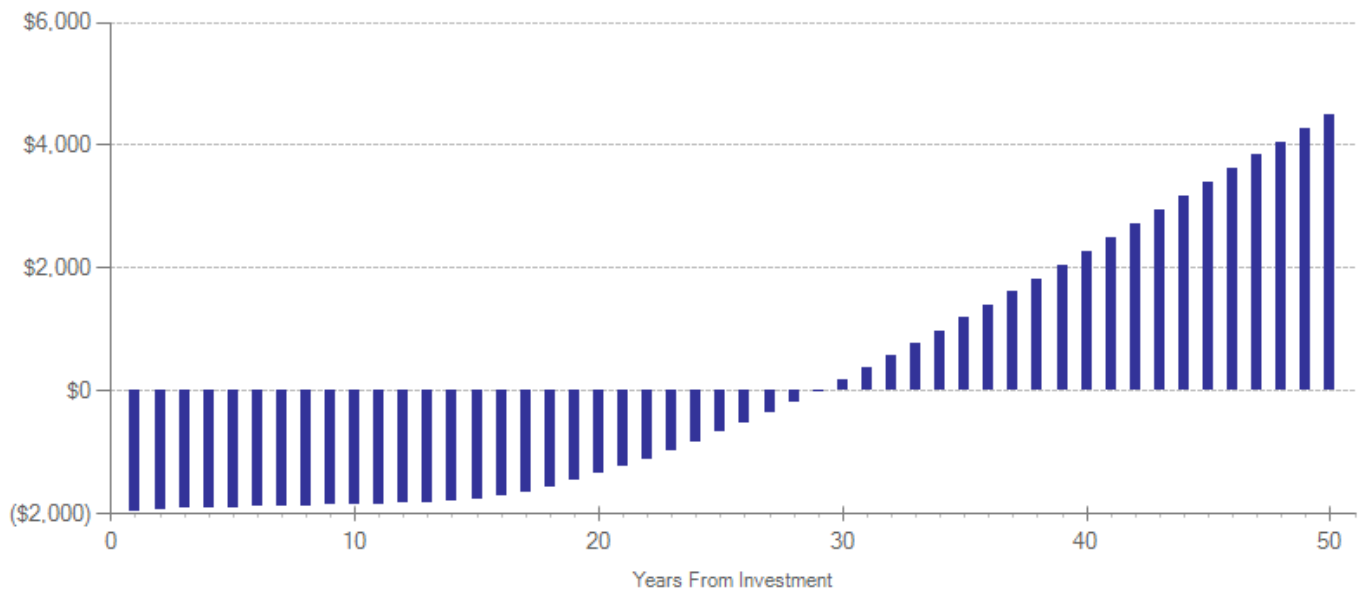
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$2,128	1	2010	Present value of net program costs (in 2013 dollars)	(\$1,314)
Comparison costs	\$881	1	2010	Uncertainty (+ or - %)	10 %

Based on therapist time, as reported in the treatment studies, as well as training costs and a flat fee for materials (e.g., manuals). Hourly therapist cost was based on the latest actuarial estimates of reimbursement by modality in WA State (DSHS).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
			ES	p-value	First time ES is estimated			Second time ES is estimated		
					ES	SE	Age	ES	SE	Age
Disruptive behavior disorder symptoms	Primary	3	-0.274	0.524	-0.044	0.176	8	-0.021	0.093	11
Attention deficit hyperactivity disorder symptoms	Primary	1	-0.083	0.706	-0.027	0.222	6	0.000	0.011	7
Test scores	Primary	1	0.073	0.742	0.047	0.221	6	0.019	0.243	17

Citations Used in the Meta-Analysis

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Incredible Years: parent training

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: Incredible Years Parent Training (www.incredibleyears.com) is a group, skills-based behavioral intervention for parents of children with behavior problems. The curriculum focuses on strengthening parenting skills (monitoring, positive discipline, confidence) and fostering parents' involvement in children's school experiences in order to promote children's academic, social, and emotional competencies and reduce conduct problems. Training classes include child care, a family meal, and transportation.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$1,063	Benefit to cost ratio	\$1.19
Taxpayers	\$646	Benefits minus costs	\$248
Other (1)	\$354	Probability of a positive net present value	52 %
Other (2)	(\$529)		
Total	\$1,535		
Costs	(\$1,286)		
Benefits minus cost	\$248		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other (1)	Other (2)	
From primary participant					
Crime	\$0	\$10	\$31	\$5	\$47
Labor market earnings (hs grad)	\$125	\$53	\$62	\$0	\$240
K-12 grade repetition	\$0	\$0	\$0	\$0	\$0
Health care (disruptive behavior disorder)	\$31	\$95	\$118	\$47	\$292
Subtotals	\$156	\$159	\$211	\$53	\$579
From secondary participant					
Labor market earnings (major depression)	\$869	\$371	\$0	\$0	\$1,240
Health care (major depression)	\$38	\$116	\$144	\$58	\$356
Subtotals	\$907	\$487	\$144	\$59	\$1,596
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$640)	(\$640)
Totals	\$1,063	\$646	\$354	(\$529)	\$1,535

We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

Detailed Cost Estimates

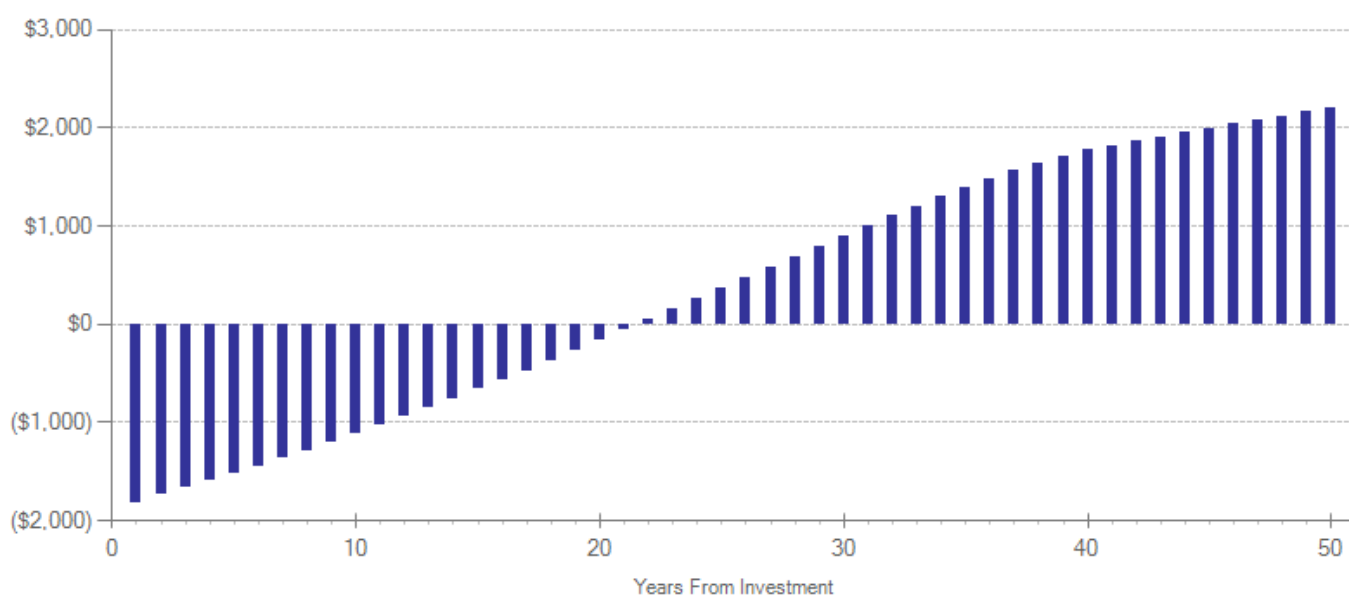
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$2,215	1	2013	Present value of net program costs (in 2013 dollars)	(\$1,286)
Comparison costs	\$881	1	2010	Uncertainty (+ or - %)	10 %

Cost of parent training class per family provided by Washington State DSHS Children's Administration, 2012. WSIPP also added costs of practitioner training and curriculum for the parent classes, based on the findings of Foster et al., 2007 (training and curricula costs are low on a per-family basis, as curricula are shared between practitioners and distributed across many families who receive the intervention). Based on conversations with Lisa St. George from Incredible Years, we assumed that a practitioner team might use their purchased training and curricula to serve 24 families per year on average, for about five years (120 families served per team).

Foster, E. M., Olchowski, A. E., & Webster-Stratton, C.H. (2007). Is stacking intervention components cost-effective? An analysis of the Incredible Years program. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46(11).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Disruptive behavior disorder symptoms	Primary	18	-0.446	0.001	-0.105	0.047	6	-0.050	0.032	9
Attention deficit hyperactivity disorder symptoms	Primary	1	-0.595	0.013	-0.220	0.238	6	0.000	0.016	7
Internalizing symptoms	Primary	3	-0.348	0.380	-0.103	0.117	6	-0.048	0.085	8
Major depressive disorder	Secondary	4	-0.094	0.557	-0.094	0.160	26	-0.046	0.173	28
Parental stress	Secondary	4	-0.402	0.016	-0.402	0.169	26	-0.191	0.119	28

Citations Used in the Meta-Analysis

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Parent Child Interaction Therapy (PCIT) for children with disruptive behavior

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: In this program, a therapist directly observes a parent and child through a one-way mirror, and provides direct coaching to the parent through a radio earphone. The focus is building the skills of the parent to more positively interact with the child and manage his or her behavior. Therapists aim to ultimately restructure the parent-child relationship and provide the child with a more secure attachment to the parent.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$562	Benefit to cost ratio	\$1.04
Taxpayers	\$581	Benefits minus costs	\$50
Other (1)	\$768	Probability of a positive net present value	47 %
Other (2)	(\$491)		
Total	\$1,419		
Costs	(\$1,369)		
Benefits minus cost	\$50		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other (1)	Other (2)	Total benefits
From primary participant					
Crime	\$0	\$37	\$110	\$19	\$166
Labor market earnings (hs grad)	\$448	\$191	\$221	\$0	\$860
K-12 grade repetition	\$0	\$0	\$0	\$0	\$0
Health care (disruptive behavior disorder)	\$115	\$353	\$437	\$175	\$1,079
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$685)	(\$685)
Totals	\$562	\$581	\$768	(\$491)	\$1,419

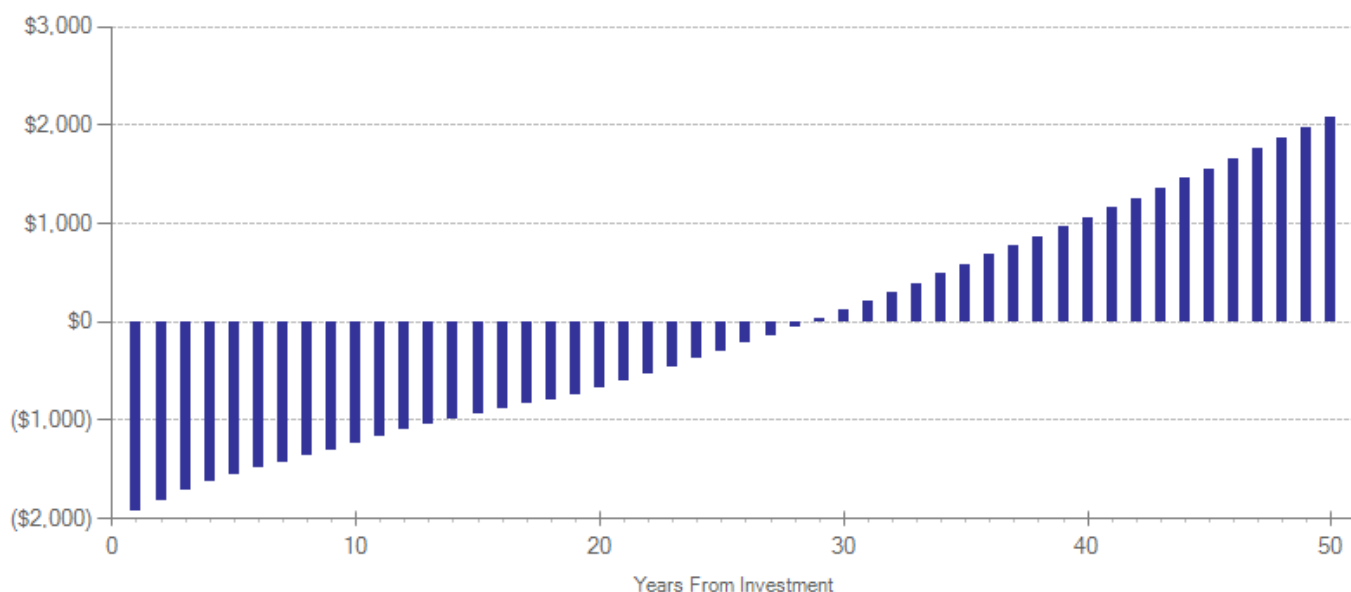
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$2,240	1	2007	Present value of net program costs (in 2013 dollars)	(\$1,369)
Comparison costs	\$1,000	1	2007	Uncertainty (+ or - %)	10 %

Standard PCIT expenditures provided by Children's Administration (average reimbursement rate for families receiving PCIT in Washington in 2007).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Attention deficit hyperactivity disorder symptoms	Primary	4	-0.792	0.001	-0.264	0.108	6	0.000	0.014	7
Disruptive behavior disorder symptoms	Primary	10	-1.045	0.001	-0.376	0.109	6	-0.179	0.094	9
Parental stress	Primary	5	-0.860	0.001	-0.860	0.129	31	-0.410	0.185	34

Citations Used in the Meta-Analysis

- Bagner, D. M., Sheinkopf, S. J., Vohr, B. R., & Lester, B. M. (2010). Parenting intervention for externalizing behavior problems in children born premature: An initial examination. *Journal of Developmental and Behavioral Pediatrics, 31*(3), 209-216.
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Incredible Years: parent training and child training

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: Incredible Years Parent Training (www.incredibleyears.com) is a group, skills-based behavioral intervention for parents of children with behavior problems. The curriculum focuses on strengthening parenting skills (monitoring, positive discipline, confidence) and fostering parents' involvement in children's school experiences in order to promote children's academic, social, and emotional competencies and reduce conduct problems. Training classes include child care, a family meal, and transportation. Studies in this category included a child skills training component as well as parent training. Children with behavioral problems are taught social, emotional and academic skills, such as understanding and communicating feelings, using effective problem solving strategies, managing anger, practicing friendship and conversational skills, as well as appropriate classroom behaviors.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$479	Benefit to cost ratio	\$0.60
Taxpayers	\$512	Benefits minus costs	(\$678)
Other (1)	\$675	Probability of a positive net present value	22 %
Other (2)	(\$662)		
Total	\$1,004		
Costs	(\$1,681)		
Benefits minus cost	(\$678)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other (1)	Other (2)	Total benefits
From primary participant					
Crime	\$0	\$31	\$91	\$15	\$137
Labor market earnings (hs grad)	\$374	\$160	\$185	\$0	\$719
K-12 grade repetition	\$0	\$0	\$0	\$0	\$0
Health care (disruptive behavior disorder)	\$105	\$322	\$399	\$161	\$986
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$839)	(\$839)
Totals	\$479	\$512	\$675	(\$662)	\$1,004

We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

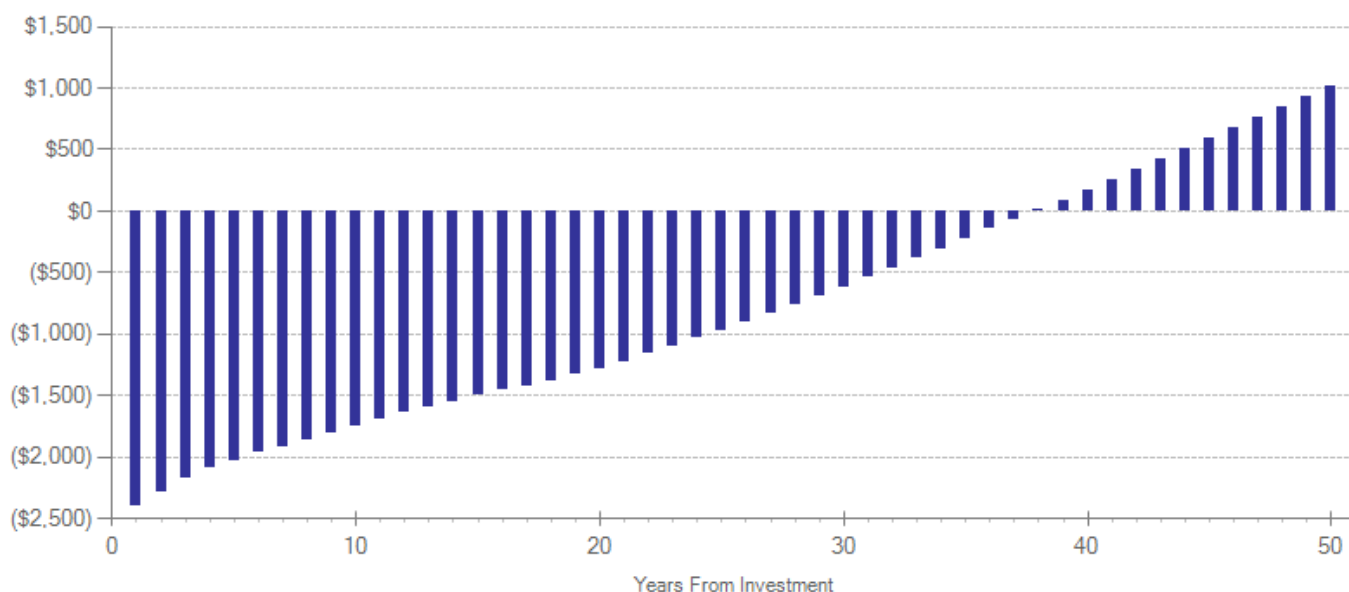
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$2,610	1	2013	Present value of net program costs (in 2013 dollars)	(\$1,681)
Comparison costs	\$881	1	2010	Uncertainty (+ or - %)	10 %

Cost of parent training class per family provided by Washington State DSHS Children's Administration, 2012. WSIPP also added costs of practitioner training and curriculum for the parent classes and child classes, based on the findings of Foster et al., 2007 (training and curricula costs are low on a per-family basis, as curricula are shared between practitioners and distributed across many families who receive the intervention). Based on conversations with Lisa St. George from Incredible Years, we assumed that a practitioner team might use their purchased training and curricula to serve 24 families per year on average, for about five years (120 families served per team). In addition, we estimated an implementation cost (per child) for the child training component, based on the staff time and cost reported in Foster et al. (2007), and assuming each practitioner serves 120 children over five years. Foster, E. M., Olchowski, A. E., & Webster-Stratton, C.H. (2007). Is stacking intervention components cost-effective? An analysis of the Incredible Years program. *Journal of the American Academy of Child and Adolescent Psychiatry*, 46(11).

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
			ES	p-value	First time ES is estimated			Second time ES is estimated		
					ES	SE	Age	ES	SE	Age
Disruptive behavior disorder symptoms	Primary	5	-0.775	0.001	-0.280	0.108	7	-0.133	0.079	10
Attention deficit hyperactivity disorder symptoms	Primary	2	-0.566	0.001	-0.170	0.143	7	0.000	0.011	8
Internalizing symptoms	Primary	2	-0.245	0.200	-0.066	0.106	7	-0.048	0.085	9
Parental stress	Primary	1	-0.737	0.021	-0.412	0.319	26	-0.196	0.185	28

Citations Used in the Meta-Analysis

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Families and Schools Together (FAST)

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: Families and Schools Together is a multi-family, after school program. Originally developed to serve young school-age children at risk of school failure, the program is now also offered universally in schools with high rates of poverty and other risk factors. The goals of the program are to increase parent involvement in schools, strengthen the parent-child relationship, reduce stress by developing parent support groups, and prevent substance abuse by the child and family. Groups of 8 to 12 families meet for 8 consecutive weeks for two and one-half hours after school or early in the evenings. Meetings are facilitated by team of trained facilitators and involve experiential learning, parent-child play, and a shared meal.

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$792	Benefit to cost ratio	\$0.47
Taxpayers	\$311	Benefits minus costs	(\$952)
Other (1)	\$671	Probability of a positive net present value	46 %
Other (2)	(\$911)		
Total	\$863		
Costs	(\$1,815)		
Benefits minus cost	(\$952)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other (1)	Other (2)	
From primary participant					
Crime	\$0	\$26	\$84	\$13	\$123
Labor market earnings (test scores)	\$733	\$313	\$361	\$0	\$1,406
K-12 grade repetition	\$0	(\$210)	\$0	(\$105)	(\$315)
Health care (disruptive behavior disorder)	\$60	\$183	\$227	\$92	\$561
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$911)	(\$911)
Totals	\$792	\$311	\$671	(\$911)	\$863

We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

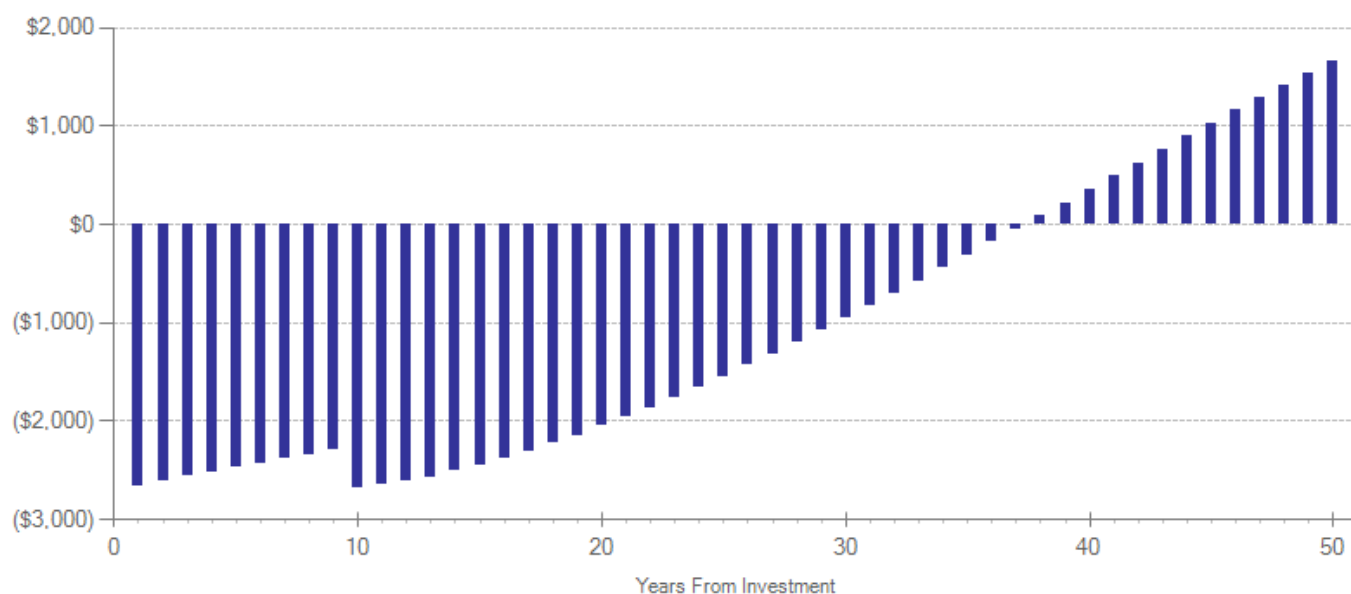
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$1,694	1	2009	Present value of net program costs (in 2013 dollars)	(\$1,815)
Comparison costs	\$0	0	2009	Uncertainty (+ or - %)	10 %

Kratochwill (2009) provided costs for the program evaluated in Madison WI. Implementation (actual presentation of the program) cost \$1194 per child, plus an average cost of \$500 per child to train the program facilitators. See Kratochwill, T. R., McDonald, L., Levin, J. R., Scalia, P. A., & Coover, G. (2009). Families and Schools Together: An experimental study of multi-family support groups for children at risk. *Journal of School Psychology*, 47(4), 245-265.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Externalizing behavior symptoms	Primary	5	-0.284	0.003	-0.219	0.081	8	-0.104	0.061	11
Internalizing symptoms	Primary	5	-0.004	0.936	-0.014	0.084	8	-0.011	0.066	10
Test scores	Primary	3	0.104	0.394	0.027	0.122	8	0.014	0.134	17
High school grad via test scores	Primary	n/a	n/a	n/a	0.005	0.036	18	0.005	0.036	18
Grade point average	Primary	1	-0.086	0.664	-0.086	0.171	8	-0.086	0.171	17
K-12 grade repetition	Primary	1	0.288	0.399	0.288	0.341	9	0.288	0.341	17

Citations Used in the Meta-Analysis

Kratochwill, T. R., McDonald, L., Levin, J. R., Scalia, P. A., & Coover, G. (2009). Families and Schools Together: An experimental study of multi-family support groups for children at risk. *Journal of School Psychology*, 47(4), 245-265.

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McDonald, L., Moberg, D. P., Brown, R., Rodriguez-Espiricueta, I., Flores, N. I., Burke, M. P., & Coover, G. (2006). After-school multifamily groups: A randomized controlled trial involving low-income, urban, Latino children. *Children and Schools*, 28(1), 25-34.

Multisystemic Therapy (MST) for youth with serious emotional disturbance (SED)

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: This is an intensive family-focused treatment, which combines aspects of cognitive, behavioral, and family therapies. Therapists work in the child's home, school, and community to modify his/her environment. Although MST is often conducted with juvenile offenders, the studies included here focused on children with externalizing problems who were not involved with the juvenile justice system at the time of intervention.

Benefit-Cost Summary			
Program benefits		Summary statistics	
Participants	\$942	Benefit to cost ratio	\$0.53
Taxpayers	\$2,525	Benefits minus costs	(\$3,124)
Other (1)	\$2,355	Probability of a positive net present value	26 %
Other (2)	(\$2,264)		
Total	\$3,558		
Costs	(\$6,683)		
Benefits minus cost	(\$3,124)		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates					
Source of benefits	Benefits to				
	Participants	Taxpayers	Other (1)	Other (2)	Total benefits
From primary participant					
Crime	\$0	\$464	\$1,631	\$233	\$2,328
Labor market earnings (hs grad)	\$864	\$369	\$429	\$0	\$1,662
Out-of-home placement	\$0	\$1,454	\$0	\$728	\$2,182
Health care (disruptive behavior disorder)	\$78	\$239	\$296	\$119	\$731
Adjustment for deadweight cost of program	\$0	\$0	\$0	(\$3,344)	(\$3,344)
Totals	\$942	\$2,525	\$2,355	(\$2,264)	\$3,558

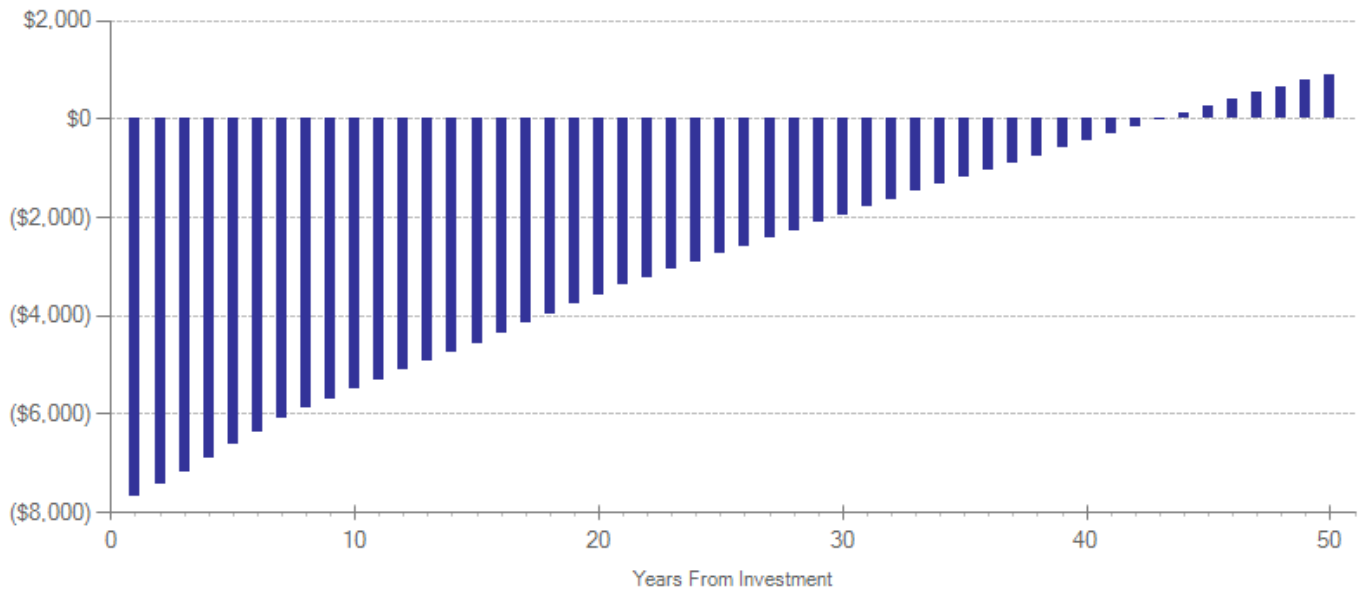
We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

Detailed Cost Estimates					
	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$7,076	1	2008	Present value of net program costs (in 2013 dollars)	(\$6,683)
Comparison costs	\$850	1	2010	Uncertainty (+ or - %)	10 %

For estimation of MST, see: R. Barnoski (2009). Providing evidence-based programs with fidelity in Washington state juvenile courts: Cost analysis, Olympia: Washington State Institute for Public Policy, <http://www.wsipp.wa.gov/rptfiles/09-12-1201.pdf>.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Out-of-home placement	Primary	5	-0.708	0.003	-0.479	0.165	15	-0.479	0.165	17
Substance abuse	Primary	3	-0.081	0.514	-0.042	0.088	15	0.000	0.187	18
Disruptive behavior disorder symptoms	Primary	6	-0.236	0.001	-0.232	0.071	15	-0.111	0.059	18
Crime	Primary	5	-0.060	0.502	-0.061	0.080	15	-0.061	0.080	25
Internalizing symptoms	Primary	2	-0.046	0.783	-0.029	0.167	15	-0.021	0.131	16
Suicidal ideation	Primary	1	-0.031	0.877	-0.020	0.216	15	-0.010	0.112	18

Citations Used in the Meta-Analysis

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- Glisson, C., Schoenwald, S. K., Hemmelgarn, A., Green, P., Dukes, D., Armstrong, K. S., & Chapman, J. E. (2010). Randomized trial of MST and ARC in a two-level evidence-based treatment implementation strategy. *Journal of Consulting and Clinical Psychology*, 78(4), 537-550.
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- Henggeler, S. W., Rowland, M. D., Halliday-Boykins, C., Sheidow, A. J., Ward, D. M., Randall, J., . . . Edwards, J. (2003). One-year follow-up of multisystemic therapy as an alternative to the hospitalization of youths in psychiatric crisis. *Journal of the American Academy of Child and Adolescent Psychiatry*, 42(5), 543-551.
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Eye Movement Desensitization and Reprocessing (EMDR) for child trauma

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: During treatment, clients focus on the traumatic memory for 30 seconds at a time while the therapist provides a stimulus. For most clients, the therapist moves his hand slowly back and forth in front of the client (eye movement); for younger children, the therapist may, instead, tap the child's hand. The client reports on what comes up and clients are guided to refocus on that in the next stimulus session. During therapy visits, clients report on the level of distress they feel. In later phases, a positive thought is emphasized during the stimulus sessions. Afterward, clients are asked to focus on residual physical tensions they may feel in order to enhance relaxation. A more complete description of this therapy is available at: <http://www.emdrnetwork.org/description.html>

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$5,084	Benefit to cost ratio	n/a
Taxpayers	\$2,583	Benefits minus costs	\$8,754
Other (1)	\$609	Probability of a positive net present value	85 %
Other (2)	\$319		
Total	\$8,594		
Costs	\$160		
Benefits minus cost	\$8,754		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				
	Participants	Taxpayers	Other (1)	Other (2)	Total benefits
From primary participant					
Crime	\$0	\$7	\$24	\$4	\$35
Labor market earnings (anxiety disorder)	\$4,930	\$2,103	\$0	\$0	\$7,033
Health care (PTSD)	\$154	\$473	\$585	\$236	\$1,448
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$79	\$79
Totals	\$5,084	\$2,583	\$609	\$319	\$8,594

We created the two "other" categories to report results that do not fit neatly in the "participant" or "taxpayer" perspectives. In the "Other (1)" category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the "Other (2)" category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

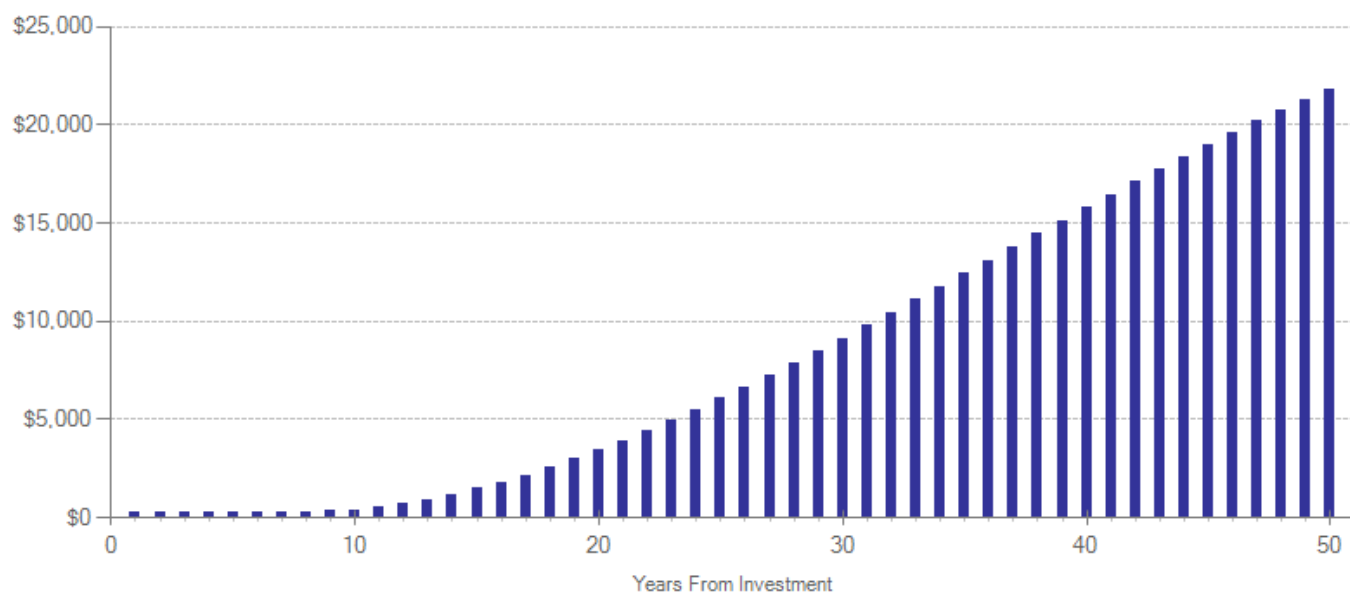
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$886	1	2009	Present value of net program costs (in 2013 dollars)	\$160
Comparison costs	\$1,035	1	2009	Uncertainty (+ or - %)	10 %

Weighted average cost for this sample of studies, (average hours therapy reported in the studies), times average the RSN costs (for 2009) for individual therapy for child PTSD. (EMDR is always individual therapy.)

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Post-traumatic stress	Primary	4	0.510	0.134	-0.340	0.191	11	-0.340	0.191	12
Major depressive disorder	Primary	2	-0.188	0.503	-0.269	0.191	11	0.000	0.027	12
Anxiety disorder	Primary	2	-0.184	0.521	-0.227	0.271	11	-0.105	0.130	12
Internalizing symptoms	Primary	1	-0.510	0.836	-0.067	0.326	11	-0.049	0.255	13
Externalizing behavior symptoms	Primary	1	-0.215	0.175	-0.215	0.260	11	-0.102	0.141	14

Citations Used in the Meta-Analysis

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Cognitive Behavioral Therapy (CBT)-based models for child trauma

Benefit-cost estimates updated August 2014. Literature review updated April 2012.

Program Description: Treatments include several components, such psycho-education about PTSD, relaxation and other techniques for managing physiological and emotional stress, exposure – the gradual desensitization to memories of the traumatic event and, cognitive restructuring of inaccurate or unhelpful thoughts. In the studies in this review, treatments provided 9 to 15 therapeutic hours per client in individual or group settings. This review includes studies of Trauma-Focused CBT, Cognitive Behavioral Intervention for Trauma in Schools (CBITS), Narrative Exposure Therapy for traumatized children (Kid-NET), Enhancing Resiliency Among Students Experiencing Stress (ERASE), and Trauma and Grief Component Therapy.

Benefit-Cost Summary

Program benefits		Summary statistics	
Participants	\$3,233	Benefit to cost ratio	n/a
Taxpayers	\$1,920	Benefits minus costs	\$6,738
Other (1)	\$779	Probability of a positive net present value	99 %
Other (2)	\$479		
Total	\$6,412		
Costs	\$327		
Benefits minus cost	\$6,738		

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2013). The economic discount rates and other relevant parameters are described in our [technical documentation](#).

Detailed Monetary Benefit Estimates

Source of benefits	Benefits to				Total benefits
	Participants	Taxpayers	Other (1)	Other (2)	
From primary participant					
Labor market earnings (anxiety disorder)	\$3,028	\$1,292	\$0	\$0	\$4,320
Health care (PTSD)	\$205	\$629	\$779	\$315	\$1,928
Adjustment for deadweight cost of program	\$0	\$0	\$0	\$164	\$164
Totals	\$3,233	\$1,920	\$779	\$479	\$6,412

We created the two “other” categories to report results that do not fit neatly in the “participant” or “taxpayer” perspectives. In the “Other (1)” category we include the benefits of reductions in crime victimization and the economic spillover benefits of improvement in human capital outcomes. In the “Other (2)” category we include estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

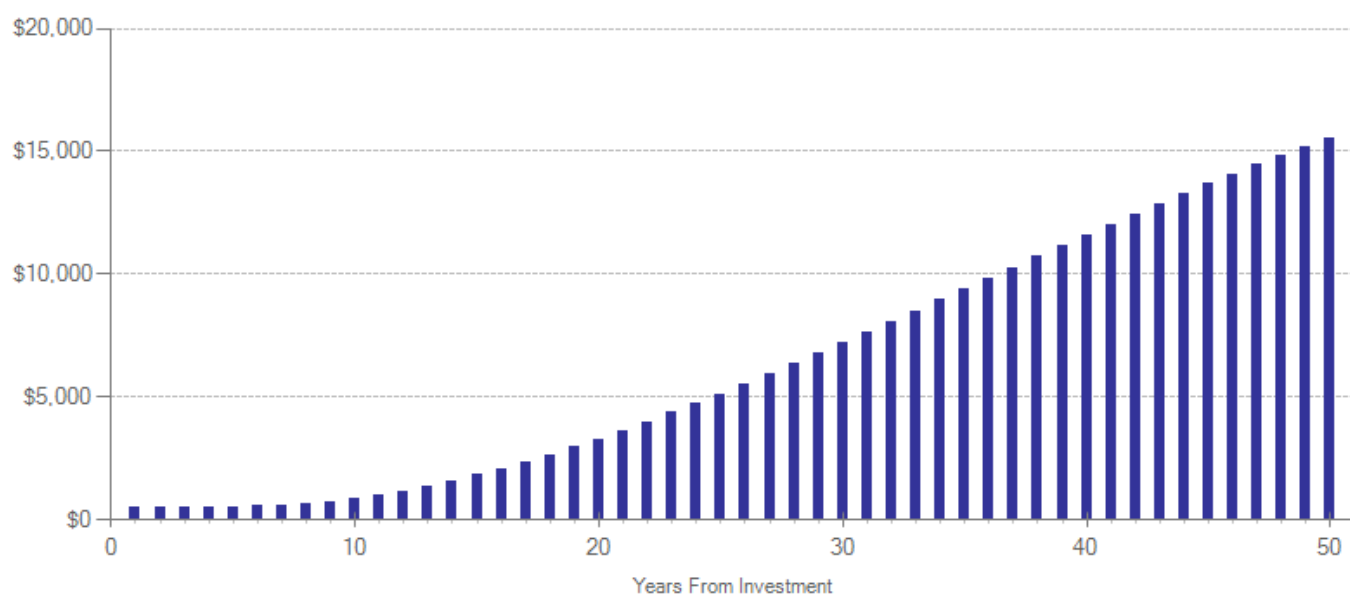
Detailed Cost Estimates

	Annual cost	Program duration	Year dollars	Summary statistics	
Program costs	\$730	1	2009	Present value of net program costs (in 2013 dollars)	\$327
Comparison costs	\$1,035	1	2009	Uncertainty (+ or - %)	10 %

Weighted average cost for this sample of studies, (average hours of group and individual therapy reported in the studies), times average the RSN costs (for 2009) for group and individual therapy.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta analysis. The uncertainty range is used in Monte Carlo risk analysis, described in our [technical documentation](#).

Cumulative Net Cash Flows Over Time (Non-Discounted Dollars)



Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Post-traumatic stress	Primary	21	-0.745	0.001	-0.481	0.065	12	-0.481	0.065	13
Major depressive disorder	Primary	14	-0.365	0.001	-0.300	0.062	12	0.000	0.025	13
Anxiety disorder	Primary	5	-0.142	0.100	-0.127	0.077	12	-0.058	0.038	13
Internalizing symptoms	Primary	5	-0.199	0.454	-0.165	0.267	12	-0.120	0.214	14
Global functioning	Primary	3	-0.581	0.001	-0.353	0.156	12	-0.353	0.156	13
Suicidal ideation	Primary	1	-0.294	0.301	-0.165	0.285	12	-0.165	0.285	13

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Addition of CBT to antidepressants (compared to antidepressants alone) for adolescent depression

Literature review updated August 2014.

Program Description:

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Major depressive disorder	Primary	5	-0.135	0.078	-0.135	0.077	16	0.000	0.013	17
Global functioning	Primary	2	0.108	0.060	0.171	0.091	16	0.000	0.016	17
Externalizing behavior symptoms	Primary	2	-0.177	0.091	-0.177	0.105	16	-0.084	0.065	19
Suicidal ideation	Primary	1	-0.074	0.436	-0.074	0.095	16	0.000	0.010	17
Anxiety disorder	Primary	1	0.083	0.767	0.083	0.280	16	0.038	0.133	17
Suicide attempts	Primary	1	-0.087	0.550	-0.087	0.146	16	0.000	0.014	17

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Full fidelity wraparound for children with SED

Literature review updated January 2012.

Program Description: Wraparound is an intensive, individualized care planning and management process for children with complex emotional and behavioral needs. During the wraparound process, a team of people who are relevant to the life of the child or youth collaboratively develop an individualized plan of care, implement this plan, monitor the efficacy of the plan, and work towards success over time. The wraparound plan typically includes formal services and interventions, together with community services and interpersonal support and assistance provided by friends, kin, and other people drawn from the family's social networks. After the initial plan is developed, the team continues to meet to monitor progress and revise interventions and strategies when needed.

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Externalizing behavior symptoms	Primary	4	-0.522	0.006	-0.321	0.142	12	-0.153	0.098	15
Internalizing symptoms	Primary	4	-0.222	0.075	-0.122	0.125	12	-0.089	0.103	14
Disruptive behavior disorder symptoms	Primary	4	-0.288	0.154	-0.130	0.124	12	-0.062	0.069	15

Citations Used in the Meta-Analysis

- Clark, H. B., Prange, M. E., Lee, B., Stewart, E. S., McDonald, B. A., & Boyd, L. A. (1998) An individualized wraparound process for children in foster care with emotional/behavioral disturbances: follow-up findings and implications from a controlled study. In M. H. Epstein, K. Kutash, & A. Duchnowski (Eds.), *Outcomes for children and youth with emotional and behavioral disorders and their families: Programs and evaluation best practices* (pp. 513-542). Austin, TX: Pro-Ed.
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Child Parent Psychotherapy

Literature review updated June 2013.

Program Description: This intervention is designed for parents (most frequently mothers) whose children are insecurely attached to the parents. In one of the two studies in the review, children had witnessed domestic violence. In the other, mothers had diagnoses of depression. The intervention consists of weekly psychotherapy sessions where both child and parent are present. The goal is to strengthen the relationship between parent and child, thereby increasing the child's sense of safety and attachment. The program is designed to consist of 50 weekly sessions.

Meta-Analysis of Program Effects										
Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Post-traumatic stress	Primary	1	-0.861	0.001	-0.551	0.261	5	-0.551	0.261	6
Post-traumatic stress	Secondary	1	-0.483	0.056	-0.309	0.253	28	-0.309	0.253	29
Test scores	Primary	1	0.282	0.170	0.282	0.206	5	0.087	0.227	17
High school grad via test scores	Primary	n/a	n/a	n/a	0.024	0.060	18	0.024	0.060	18

Citations Used in the Meta-Analysis

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Modularized Approaches to Treatment of Anxiety, Depression, and Behavior (MATCH)

Literature review updated June 2013.

Program Description: Modular treatment consists of modules from the 3 standard treatment types for child anxiety (Coping Cat), depression (Primary and Secondary Control Enhancement Training), and disruptive behavior (Behavioral Parent Training/ Defiant Child), but therapists are free to introduce modules from more than one of the types. For example, during depression treatment, a therapist could use the module for defiant behavior if the child's behavior warranted and return to the depression treatment later.

Meta-Analysis of Program Effects

Outcomes measured	Primary or secondary participant	No. of effect sizes	Unadjusted effect size (random effects model)		Adjusted effect sizes and standard errors used in the benefit-cost analysis					
					First time ES is estimated			Second time ES is estimated		
			ES	p-value	ES	SE	Age	ES	SE	Age
Internalizing symptoms	Primary	1	-0.546	0.004	-0.350	0.189	11	-0.255	0.177	12
Externalizing behavior symptoms	Primary	1	-0.646	0.001	-0.413	0.190	11	-0.197	0.129	13

Citations Used in the Meta-Analysis

Weisz, J.R., Chorpita, B.F., Palinkas, L.A., Schoenwald, S.K., Miranda, J., Bearman, S.K... (2012) Testing standard and modular designs for psychotherapy treating depression, anxiety, and conduct problems in youth. *Archives of General Psychiatry* 69(3), 274-282

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